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Florida Circuit Court.

Ivan HOYTE, Norman Hoyte, and Stanley Malcolm, individually and on behalf of all persons similarly situated, Plaintiffs,
v.
STAUFFER CHEMICAL COMPANY, a Delaware Corporation, Rhone Poulenc, Inc., a Delaware Corporation, Defendants.

No. 98-3024-CI-7.

Nov. 6, 2002.

CLASS REPRESENTATION

BOYER, J.

FINDINGS OF FACT AND CONCLUSIONS OF LAW ON CLASS CERTIFICATION

***1** This cause came to be heard upon plaintiffs' motion for class certification. The Court has reviewed the motion, the written submissions of the parties, and the pertinent pleadings. The Court held a four day evidentiary hearing from June 11 to June 14, 2002, during which opening arguments of counsel were made, testimony was heard, and numerous exhibits and other documents were received into evidence. Based on the evidentiary record in this case, the Court hereby DENIES plaintiffs' motion for class certification, making the following findings of fact and conclusions of law.

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FINDINGS OF FACT

I. INTRODUCTION

A. The Putative Class Claims

***2** 1. On May 11, 1998, the present proposed class representatives, Ivan Hoyte, Norman Hoyte, and Stanley Malcolm, and three other individuals, Harland Kingsley, Frank Leitold, and Vernon Hudson, filed the original complaint in this action. These six individuals had been workers at Stauffer's elemental phosphorous plant in Tarpon Springs, Florida ("the Plant"), during various points in its operation. [FN1] Their complaint, filed approximately 17 years after the Plant ceased operations, alleged exposure to various substances while working at the Plant and sought compensatory and punitive damages, as well as medical monitoring, on behalf of a putative class of all living, former, non-management workers.

FN1. The Plant initially was owned by Victor Chemical Company ("Victor"), and Victor was subsequently purchased by Stauffer. Stauffer operated the Plant until its closing in 1981.

2. On March 15, 2000, plaintiffs filed a first amended complaint. In the first amended complaint, the plaintiffs dropped all claims except for medical monitoring, but continued to seek recovery of damages as well as injunctive relief on behalf of themselves and the putative class of all living, former, non-management workers. Thereafter, two of the six individuals (Messrs. Kingsley and Leitold) voluntarily dismissed their claims, and a third (Mr. Hudson) died, leaving only Ivan Hoyte, Norman Hoyte, and Stanley Malcolm as the proposed class representatives.

3. On April 18, 2002, in the second amended complaint, the three remaining proposed class representatives expressly disclaimed any request for damages for the proposed class (leaving only an equitable cause of action for medical monitoring) and also dropped their previous plans to proceed under both Fla. R. Civ. P. 1.220(b)(2) and (b)(3), choosing instead, in seeking to certify the class, to proceed exclusively under (b)(2).

4. As set forth in their second amended complaint, the proposed class representatives seek to certify the following class ("Workers"):

all living non-management persons who worked at

the Tarpon Springs plant (including Victor Chemical Works non-management employees) on Anclote Road, Tarpon Springs, Florida from 1947-1982, who have not previously filed suit against the defendants for personal injuries resulting from toxic exposures at the Tarpon Springs plant.
Second Am. Compl. ¶ 40.

5. The thrust of the proposed class representatives' claim is that their workplace exposures to one or more of a dozen different substances while performing different jobs at varying times, and no matter for how short a time, from 1947 to 1982, placed them at significantly increased risk of contracting various diseases in the future. Relying on *Petito v. A.H. Robins Co., Inc.*, 750 So.2d 103 (Fla. 3d DCA 1999), they seek a mandatory injunction requiring Stauffer to fund a court-supervised, across-the-board medical monitoring program designed to detect diseases that any of the workers may or may not contract at some point in the future. Second Am. Compl. ¶¶ 1, 36, 61.

6. The proposed class representatives do not bring a cause of action for physical injury or the cost of medical care to treat any disease purportedly caused by the alleged workplace exposures, nor do they sue to recover compensatory damages of any kind, whether for themselves or the putative class.

B. The Class Certification Hearing

***3** 7. From June 11 to June 14, 2002, the Court held an evidentiary hearing on plaintiffs' motion to certify the class. At the class certification hearing ("hearing"), the Court heard testimony from the three remaining proposed class representatives (Ivan Hoyte, Norman Hoyte, and Stanley Malcolm); two other putative class members, Harland Kingsley (who previously had been a named plaintiff and proposed class representative) and Daniel Giddens; a former plant manager, Jerry Harris; and six expert witnesses.

8. Ivan Hoyte is a 75-year-old naturalized American citizen who was born in Panama, raised in Jamaica, and emigrated to the United States in 1959. Tr. 591:23-592:3; 597:5-15; 604:24-605:3; Dx. 171. [FN2] He was employed at the Plant from 1970 to 1973, but did no actual work for about a year of that time as a result of taking disability leaves of absence. Tr. 607:7-25; 610:8-18; 611:9-612:11. [FN3]

FN2. Exhibit references ("Dx." and "Px.") refer to the exhibits Stauffer and plaintiffs, respectively, entered into evidence at the hearing. Testimony references ("Tr.") refer to the hearing transcript.

FN3. In these findings of fact, the Court may cite to deposition testimony heard without objection at the hearing (either read into the record or used during cross-examination of a witness). In considering this testimony, the Court is cognizant of:
• The parties' written stipulation that deposition testimony read at the hearing or used during cross-examination is part of the record of the hearing and accurately reflects the official deposition transcript; • Fla. Evid.Code 90.803(18), which provides that a party's (such as a named plaintiff's) prior deposition testimony constitutes an admission;
• Fla. Evid.Code 90-801(2)(A) & 804(2)(A), which provide that prior deposition testimony of a witness is admissible as substantive evidence if it constitutes a prior inconsistent statement (*see Moore v. State*, 452 So.2d 559 (Fla.1984)), or, if not inconsistent, is former testimony by the witness; and
• Fla. R. Civ. P. 1.390(b), which provides that deposition testimony of an expert may be used at trial.

9. Norman Hoyte is the 52-year-old son of Ivan Hoyte. Norman Hoyte was raised in Jamaica but has lived in the United States since 1972. He is a permanent resident here, but not an American citizen. Tr. 634:16-24; 648:19-24; 649:11-14; 649:19-20. He worked at the Plant for approximately six months in 1972. Second Am. Compl. ¶ 7.

10. Stanley Malcolm is a 63-year-old naturalized American citizen who grew up in Jamaica and came to the United States in 1967. Tr. 532:2-7; 533:14-15; 554:19-23; 570:9-11. He worked at the Plant for about nine years, from 1973 until 1981. Tr. 534:9-15; 555:14-22.

11. Harland Kingsley, who is 75 years old, worked at the Plant 44 years ago, from 1951 to 1958. Tr. 93:8-11; 93:15-94:10; 121:23-122:7. After he left Stauffer, he returned to doing plumbing and electrical work, as he had done previously, and spent most of his working life in those lines of work. Tr. 122:11-123:5.

12. Daniel Giddens, who is 80 years old, worked at the Plant from 1953 until the Plant closed. Tr. 163:9-

23; 194:20-23. During that time, he worked in virtually every area of the Plant and did a number of different jobs. Tr. 191:11-14. He retired at the age of 60 after leaving Stauffer. Tr. 190:23- 191:7. Mr. Giddens gets a physical examination every three months, including a chest xray. Tr. 191:18-192:1; 194:15-19.

13. Jerry Harris was plant engineer at the Plant from 1974-1976, production superintendent at the Plant from 1976-1978, and plant manager at the Plant from 1978-1986. [FN4] Tr. 653:21-654:3; 655:14-24; 656:5-21.

FN4. Although Mr. Harris emained plant manager at the Plant until 1986, the Plant itself ceased operation in 1981. Tr. 656:8-657:3.

14. At the hearing, plaintiffs called three expert witnesses: [FN5] Ms. Elizabeth Gross, an industrial hygienist; Dr. Lewis Pepper, an occupational health physician; and Mr. James Tarr, an air dispersion modeler. [FN6]

FN5. Prior to the hearing, plaintiffs also had engaged a fourth expert, Mr. Samuel Issacharoff, a legal expert, whose opinions were excluded by this Court on May 7, 2002.

FN6. Although plaintiffs labeled Mr. Tarr a rebuttal expert, this Court found, after hearing all of the expert testimony, including that of Mr. Tarr, that Mr. Tarr's testimony was not rebuttal testimony as contemplated under the Court's Case Management Order. Tr. 1167:10-23. The Court nonetheless determined, over Stauffer's objection, that it would consider Mr. Tarr's testimony in connection with ruling on class certification, and it has done so.

15. In contrast to plaintiffs' second amended complaint, which alleged that all Workers had been exposed to a dozen alleged "toxins" including, but not limited to, arsenic, ionizing radiation and coke dust (Second Am. Compl. ¶ 20), plaintiffs' experts testified that the only alleged "toxins" at issue for all Workers about which they had any opinions were silica, phosphorus, phosphorous pentoxide ("P2O5")/phosphoric acid ("H3PO4"), and noise. [FN7] Tr. 510:4-13; 766:11-19.

FN7. When exposed to air, phosphorous reacts to form phosphorous pentoxide and phosphoric acid ("P2O5/H3PO4"). Tr. 670:25-671:12.

***4** 16. Plaintiffs' experts also testified at the hearing that asbestos was only a substance at issue for workers in the furnace building, lead only for painters, chromium only for mechanics, and fluoride only for yard and kiln workers. Tr. 388:2-9; 392:9-11; 391:4-21; 394:11-20; 766:20-767:3.

II. WORKER EXPOSURES VARIED SIGNIFICANTLY AND CANNOT BE ASSESSED ON A CLASS- WIDE BASIS.

A. Plant Operations And Job Functions Consisted Of Seven Separate And Distinct Process Areas.

17. Mr. Harris testified concerning the seven separate and distinct process areas at the Plant, what processes took place in each of those areas, which workers worked in each of those areas, and what emission control devices were used in those areas. *See generally* Tr. 657:14-713:19. The seven separate and distinct process areas at the Plant were the: (1) unloading and conveying area; (2) kiln; (3) coke drying area; (4) silo area; (5) furnace building; (6) purification area; and (7) storage area. Tr. 667:20-668:4. With respect to each of these process areas, Mr. Harris testified as follows.

18. The first of these separate and distinct process areas was the unloading and conveying area. Tr. 669:3-7. There, the raw materials--coke, silica and phosphate ore--were delivered by hopper car. The doors on the bottom of the hopper car were opened, and the raw materials dropped down to a conveyor belt which carried them to other process areas of the Plant. Tr. 669:8-25. The raw material operator, diesel equipment operator and switcher worked in this process area, which was located outside. Tr. 670:1-10.

19. The second separate and distinct process area was the kiln. There, the phosphate ore was heated to yield the proper grade of phosphate nodules for processing through the furnace. Tr. 673:25-674:19. Two sets of Buells (cyclone dust collectors) and a scrubbing tower were used to control dust and gases

at the kiln. The workers who worked at the kiln were the kiln operator and kiln helper.

20. The third of these process areas was the coke drying area. There, the coke was dried, fed over a coke screening operation and sized, and placed into a coke retention bin for later transfer to storage in the silos. Tr. 678:13-20; 679:10-680:2. There was a dust collector with various collection points in the coke drying area. Tr. 680:3-8. The kiln helper worked in the coke drying area.

21. The fourth area was the silo area. The silica, coke and phosphate nodules were stored at the top of the silos. Those materials were discharged to the bottom of the silos where they were weighed and proportioned and then transported by conveyor belt to the burden bins at the top of the furnace. Occasionally, a kiln helper would have to work in the silos for a few minutes moving the weighing system. Once or twice a week, a different yard laborer would clean the silo area. There were two dust collection systems with numerous collection points in the silo area. To further reduce the potential for exposure to dust in the silo area, a policy was implemented under Mr. Harris requiring yard laborers to wear respirators while cleaning the silo area, and limiting kiln helpers to a maximum working time of four hours per day in the silo area. Tr. 681:19-685:23.

***5** 22. The fifth separate and distinct process area was the furnace. Once a shift, for approximately 30-40 minutes, the materials would be fed into the burden bins at the top of the furnace and fed by gravity via chutes into the furnace below. This was known as burdening the furnace. The furnace utility worker (also sometimes referred to as the tapper helper) burdened the furnace. There was a dust collection system with numerous collection points in the burden bin area. Tr. 688:6-689:3; 689:7-24; 690:6-15.

23. Inside the furnace, the materials reacted chemically in the presence of high temperatures to form gaseous elemental phosphorous, carbon monoxide, molten ferrophosphorous ("iron"), and calcium silicate slag ("slag"). Tr. 654:13-655:6; 693:3-694:1. Once a shift, the iron was "tapped" from the tap hole to remove it from the furnace. More frequently, slag was "flushed" from the two flush holes to remove it from the furnace. Tr. 696:17-697:21. Towards the end of a tap or flush, there was a potential for exposure to some gases, so a hood and dust collection system were placed over the flush and tap holes and slag runs to collect releases. Tr. 698:1-12. The furnace operator operated the furnace from an air conditioned control room on the back side of the furnace. The tapper performed the tapping and flushing, assisted by the furnace utility worker (or tapper helper). Tr. 694:2-12; 697:22-25.

24. The sixth area was the purification area. There, the gaseous phosphorous from the furnace moved through a lane condenser system, where it was cooled and liquified. The carbon monoxide remained in a gaseous state, was run through a scrubbing system, and then was piped to the kiln where it was utilized as a fuel gas. Tr. 699:2-25. The Phosphorous-A operator ("P4A operator") operated the lane condenser system. Tr. 700:1-5. A Clermont collection system was used to control emissions at the lane condenser system. Tr. 700:6-20.

25. Also part of the purification area were the clarifying pond and roaster. At the clarifying pond, water containing phosphorous-bearing sludge settled out. The phosphorous sludge was then sent to the roaster. Tr. 709:23-710:14. The clarifying pond operator operated the clarifying pond. Tr. 662:17-663:1. At the roaster, additional phosphorous was recovered from phosphorous-bearing sludge which came from both the clarifying pond and lane condenser system. The Phosphorous-B operator ("P4B operator") operated the roaster. Tr. 704:19-706:24.

26. The seventh separate and distinct process area was the storage area. There, the filtered phosphorous was loaded into tank cars and drums. Tr. 707:3- 10. The P4A operator worked in the storage area. Tr. 707:11-15.

27. The maintenance department was responsible for maintaining the Plant. Tr. 663:2-9. The maintenance workers had different jobs depending upon their expertise. Some maintenance workers, for example, were electricians, others were welders and two were full-time painters. Tr. 663:10-22.

***6** 28. There were also yard laborers who did all other labor activities needed at the Plant. Tr. 663:23-664:6.

B. Actual Quantitative Measurements Demonstrated Significant Variability Of Exposures Among And Within Job Categories.

29. Every expert--whether plaintiffs' or Stauffer's--who testified at the hearing regarding the actual personnel exposure sampling done at the Plant ("sampling data") testified that such sampling data demonstrated quantitatively that there was significant

variability of worker exposures depending upon the distinct process area of the Plant where each worker worked and his job. Tr. 345:3-18; 346:23-347:9; 518:12-17; 767:4-773:11; 819:14-825:8.

30. Ms. Gross, plaintiffs' industrial hygienist, prepared a 20-page table summarizing the sampling data. Px. 184; see also Dx. 101, 102. Although Ms. Gross admitted that current OSHA Permissible Exposure Limits ("PELs") only apply to a currently operating workplace and not to a workplace no longer in existence, such as the Plant (Tr. 367:1-4), she nevertheless, at plaintiffs' counsel's request, performed an "exposure assessment" by comparing the sampling data to current OSHA PEL's and determining for each sample its percentage of the current PEL. Tr. 366:18-25. Ms. Gross testified that this comparison demonstrated quantitatively significant variability of worker exposure substance to substance, job to job, and over time. Tr. 345:3-9; 346:23-347:9; 387:13-20. The sampling data supports that conclusion with respect to each of the substances about which plaintiffs' experts testified. [FN8]

FN8. As noted above, (*see* supra at ¶ ¶ 15, 16), plaintiffs' experts testified that: silica, phosphorous, P2O5/H3PO4, and noise are at issue for all Workers; and asbestos for workers in the furnace building only, chromium for mechanics only, lead for painters only, and fluoride for yard and kiln workers only. Tr. 510:4-13; 388:2-9; 391:4-21; 392:9-11; 394:11-20. Plaintiffs' experts did not or could not testify concerning the significance of sampling data for arsenic (Tr. 347:14-19) or radiation. The Court notes, however, that with regard to the sampling data for arsenic, all levels were below 5% of the PEL. Px. 184 at p. 1-2. With regard to radiation, all of the levels were well below regulatory standards. Tr. 713:20-714:16; Dx. 164, 165, 166 and 167.

31. With regard to silica, Ms. Gross testified that there were 56 personnel samples taken from 12 different job categories, only 3 exceeded the PEL, and all those exceedances were in a single job category--the utility worker. Tr. 378:3-379:11; Px. 184 at p. 16-18. Ms. Gross admitted that the wide range of variability in those samples made it hard to know, even within a single job category, what any one worker was exposed to at the Plant day to day. Tr. 379:2-11.

32. With regard to respirable dust (which may contain silica), Ms. Gross testified that there were 179 personnel samples taken from 12 different job categories and only 6 exceeded the PEL. Tr. 379:12-20; Px. 184 at p. 11-16. Ms. Gross admitted there was a range of exposures even within job categories where one or more samples exceeded the PEL. Tr. 379:21-380:4. Ms. Gross also admitted potential exposures to respirable dust would vary worker to worker depending upon where the worker was in the Plant and what he was doing. Tr. 345:3-18.

33. With regard to phosphorous, Ms. Gross testified there were 108 personnel samples taken from 18 different job categories and only 5 exceeded the PEL with samples ranging from 1.5% to 433% of the PEL. Tr. 384:13-385:13; Px. 184 at p. 7-9. Ms. Gross admitted that the samples indicated significant differences in exposures among the Workers. Tr. 384:20-385:13.

34. With regard to P2O5/H3PO4, Ms. Gross testified that there were 53 personnel samples taken from 8 different job categories ranging from 5% to 499% of the PEL, with the person at the highest measured level likely wearing a respirator. Tr. 386:8-25; Px. 184 at 5-7. Ms. Gross admitted that the P2 O5/H3PO4 exposures were widely variable among the Workers. Tr. 387:1-4.

*7 35. With regard to noise, Ms. Gross testified that there were 54 personnel samples taken from 19 different job categories and only 2 samples exceeded the PEL (one for a diesel operator and one for a mechanic), with ranges from 1% to 112% of the PEL within those categories. Tr. 387:9-12; Px. 184 at p. 4-5. Ms. Gross admitted that there was a wide range of exposures to noise for all job categories, indicating day-to-day and year-to-year variation. Tr. 387:13-24.

36. With regard to asbestos, Ms. Gross testified that no sample exceeded the PEL in the furnace building--the only area of the Plant for which asbestos is at issue in this case. Tr. 390:21-391:3; 388:2-12; Px. 184 at 2. Ms. Gross admitted that exposures to asbestos, and whether those exposures were significant or not, would vary from worker to worker depending upon how much time each worker spent in the furnace building. Tr. 388:18-389:8.

37. With regard to chromium, Ms. Gross testified that no samples exceeded the PEL for the mechanics--the only workers for whom chromium is at issue in this case. Tr. 391:4-392:2; Px. 184 at p. 2. Ms. Gross admitted chromium exposure would vary mechanic to mechanic depending upon what each particular

mechanic was doing. Tr. 391:8-12.

38. With regard to lead, Ms. Gross admitted that the sampling that was done was designed to determine a worst case scenario and not to test representative painter exposures. Tr. 394:4-10.

39. With regard to fluoride, Ms. Gross testified that no samples exceeded the PEL for the yard and kiln workers--the only workers for whom fluoride is at issue in this case. Tr. 394:11-20. Fluoride sampling at the Plant varied from non-detectable to 20% of the PEL. Px. 184 at p. 2-3.

40. Finally, with regard to all of the sampling data, Ms. Gross admitted:

Q. Now, the former workers had a wide range of exposures with a wide variety of exposures across the years and across job trades, correct?
A. Correct.
Q. And that wide range of exposures existed even within the same job category, true?
A. That's correct.
Tr. 345:3-9.

* * *

Q. Ms. Gross, wouldn't you agree that when you analyzed this entire chart of yours of samples, as you've done, what is clear from the data is there is a wide range of exposures to all job categories indicating a day-to-day and year- to-year variation?
A. There's a year-to-year and day-to-day variation.
Tr. 387:13-20. *See also* Tr. 346:23-347:9. [FN9]

FN9. Dr. Pepper, plaintiffs' occupational health expert, testified he had no independent data to disagree with Ms. Gross' conclusion that the sampling data showed a wide range of exposures to all job categories indicating day-to-day and year-to-year variation. Tr. 518:12-17.

41. Dr. Rock, Stauffer's industrial hygienist, [FN10] agreed with Ms. Gross that current PELs have no applicability to the historical sampling data from the Plant. Tr. 807:12-20. The Court notes, however, that even if one were to compare such historical sampling data to the current PELs, as Ms. Gross did in her own table (*see* Px. 184), the overwhelming majority of worker's exposures were below the current OSHA PELs.

FN10. *See* Dx. 144.

42. Dr. Rock took the analysis of the sampling data a step further than Ms. Gross. He applied a standard statistical test called Analysis of Variance ("ANOVA") to the sampling data and calculated whether there was statistically significant variation among the Worker's exposures for the substances at issue for all Workers. Tr. 766:11-768:13; 768:19-769:11. Dr. Rock concluded that the sampling data, when tested by ANOVA, proved there were such statistically significant variations of exposures. 766:11-769:11; 771:23-773:11.

***8** 43. With regard to silica, Dr. Rock testified that based on the sampling data, when tested by ANOVA, there was only an 18 out of one million chance that all Workers were similarly exposed to silica, and there was statistically significant variation of exposures to silica among the Workers. Tr. 772:9-22.

44. With regard to phosphorous, Dr. Rock testified that based on the sampling data, when tested by ANOVA, there was less than a 0.5% chance that all Workers were similarly exposed to phosphorous, and there was statistically significant variation of exposures to phosphorous among the Workers. Tr. 768:19-769:11.

45. With regard to P2O5/H3PO4, Dr. Rock testified that based on the sampling data, when tested by ANOVA, there was less than a one in a ten million chance that all Workers were similarly exposed to P2O5/H3PO4, and there was statistically significant variation of exposures to P2O5/H3PO4 among the Workers. Tr. 771:23-772:8.

46. With regard to noise, Dr. Rock testified that based on the sampling data, when tested by ANOVA, there was only a 2.4% chance that all Workers were similarly exposed to noise, and there was statistically significant variation of exposures to noise among the Workers. Tr. 772:23-773:5.

47. Dr. Rock also analyzed the sampling data for asbestos for the workers in the furnace building, chromium for the mechanics, lead for the painters, and fluoride for the yard and kiln workers and concluded that there were no homogenous exposures for any of these groups and, therefore, each worker's exposures had to be assessed individually. Tr. 819:14-825:8.

48. With regard to asbestos for the workers in the furnace building, Dr. Rock testified that the sampling data demonstrated that even for the furnace workers

who actually replaced the asbestos rope in the electrodes, asbestos exposures were below current PELs and there is no sampling data that demonstrates all workers who worked in the furnace building had a common exposure to asbestos. Workers who worked in the furnace building after 1978 had no potential to be exposed to asbestos. Tr. 820:2-15; 794:25-795:9; 962:8-25; Dx. 35.

49. With regard to chromium for the mechanics, Dr. Rock testified that not all the mechanics welded, that none of the mechanics welded all the time, and that the sampling data showed large variability of exposures. Tr. 820:23-822:5; Dx. 21. [FN11]

FN11. It is undisputed that the only potential exposure to chromium at the Plant at issue was generated when certain of the mechanics welded.

50. With regard to lead for the painters, Dr. Rock testified that there was no sampling data demonstrating that the painters were uniformly exposed to lead. Dr. Rock concurred with Ms. Gross that the only sampling data for lead was not representative of normal lead exposure for painters. Tr. 822:19-824:11; Dx. 26. [FN12]

FN12. The lead sampling done was performed to simulate a worst-case full-shift set of samples where continuous spray painting was done with lead-based spray paint. In actuality, the vast majority of painting done at the Plant was done by brush and with low-lead paint. *Id.*

51. With regard to fluoride for the yard and kiln workers, Dr. Rock testified there was no sampling data for yard workers and the sampling data for kiln workers demonstrated the highest exposure was 20% of the current OSHA PEL. Dr. Rock also testified that there was no sampling data demonstrating that yard and kiln workers were uniformly exposed to fluoride. Tr. 824:19-825:8.

***9** 52. Based on his analysis, including his use of ANOVA testing, Dr. Rock concluded that the sampling data proved quantitatively that there were no homogenous exposures among the various job categories, but, to the contrary, there were significant differences in exposures for the substances at issue among the Workers and sub-groups of workers identified by plaintiffs' experts. He testified that any exposure assessment would, therefore, need to be done on a worker-by-worker basis and could not be done on a group-wide basis. Tr. 773:6-11; 819:14-820:1. This Court agrees.

53. Based on the undisputed testimony of both plaintiffs' and Stauffer's experts, the Court finds that current OSHA PELs have no applicability to a workplace, such as the Plant here, that is no longer in existence. Furthermore, the Court finds that, even if such PELs were applicable, the sampling data demonstrates that exposures to the Workers were in the overwhelming majority of cases below the PELs. In addition, the sampling data shows statistically significant quantitative variations in Worker exposures. Any exposure assessment would thus need to take into account significant differences in potential exposures among the Workers for different substances, in different jobs, and during different time periods. Of necessity, this analysis must be done on a worker-by-worker basis.

C. Qualitative Evidence Also Demonstrated Significant Variability Of Exposures.

54. Faced with the quantitative sampling data from the Plant, which demonstrated significant variation in Worker exposures and average exposures below the PELs, Ms. Gross sought to minimize reliance on her very own table (Px.184), and emphasized instead selective "qualitative" information such as self-reports of the workers and documentary evidence to support her opinion that prior to 1975, before sampling was done at the Plant, exposures were worse Plant-wide than they were after 1975 when sampling was done. Tr. 235:25-237:7. Ms. Gross admitted she had no quantitative data to support that opinion. Tr. 372:14-24. Moreover, Dr. Rock testified that no scientific evidence suggests that Worker exposures were worse Plant-wide in the pre-1975 years. Tr. 844:9- 21; 846:23-847:22.

55. The Court finds that the "qualitative" information upon which Ms. Gross relied does not support her opinion that prior to 1975 exposures were worse Plant-wide than they were after 1975 when personnel sampling was done. To the contrary, the testimony of Mr. Harris, the workers, and for that matter, Ms. Gross herself, showed significant qualitative variability of exposures (none of which were shown to exceed PELs on a Plant-wide basis) based on the distinct process area of the Plant in which each worker worked and his particular job.

56. For example, Mr. Harris testified that: (1)

workers in the unloading and conveying area (the raw material operator, diesel equipment operator and switcher) normally did not have the potential to be exposed to phosphorous or P2O5/H3PO4 (Tr. 670:20-671:15); (2) workers at the kiln (the kiln operator and kiln helper) did not have the potential to be exposed to P2O5 (Tr. 677:20-678:12); (3) workers in the coke drying area (the kiln helper) did not have the potential to be exposed to phosphorous or P2O5/H3PO4 (Tr. 680:23-681:8); and (4) workers at the clarifying pond and storage area (the clarifying pond operator and P4A operator) had no potential for significant exposure to silica. Tr. 711:12-15; 708:2-5.

***10** 57. Mr. Harris also testified that dust, radiation and noise were not Plant-wide concerns. Tr. 711:16-22; 714:10-16; 710:18-20. [FN13]

FN13. In fact, it is undisputed that radiation was not a substance of concern in any area at the Plant. Tr. 713:20-714:16; Dx. 164, 165, 166 and 167.

58. Mr. Harris's testimony that potential worker exposures varied depending upon the process area where each worker worked and his particular job is corroborated by the workers who testified at the hearing.

59. Over his almost 30 years at the Plant, Mr. Giddens had occasion to work in every job, except furnace operator. Tr. 164:12-16. He indicated that the substances to which one potentially would be exposed and the intensity of that exposure would differ among the various process areas at the Plant. Thus, some areas of the Plant were dustier than other areas, and some areas had more gas than other areas. Tr. 182:20-183:2. Mr. Kingsley, who also "did a lot of different jobs" while at the Plant (Tr. 94:11-23), testified that different jobs presented different potential exposures to dust and gas. Tr. 128:25-129:11; 136:1-6. This general testimony was confirmed by the workers' more specific testimony about various jobs.

60. Similarly, Messrs. Kingsley, Malcolm, and Ivan Hoyte each testified regarding the job of burdening the furnace. Although they indicated that the burden room was "a very dusty place," their testimony established that burdening would occupy any particular tapper helper only two to three days a week, and even then just once per shift for between a half hour and an hour. Tr. 123:11-25; 557:15-25; 595:16-596:6; 615:3-18.

61. They also testified that other areas of the furnace building were not as dusty as the burden room (Tr. 132:18-135:2; 558:18-559:1; 615:19-25), with the degree of dust depending, as Mr. Hoyte stated, "on what operation you are doing at the time." Tr. 616:1-6. Mr. Kingsley noted that, apart from the burdening room, conditions generally in the furnace building were not that bad ("there wasn't that much dust there") and that dust collectors there were sufficient to control dust emissions. Tr. 134:13-135:5; 135:11-14.

62. In the kiln, there was no potential for exposure to any significant amount of dust. Mr. Kingsley, who for several years was a kiln operator, testified that, in that position, he was not exposed to a lot of dust and that there was "[m]ore gas than dust" there. Tr. 94:11-23; 108:24-110:8; 130:7-25. Ivan Hoyte, who also worked in the kiln from time to time, confirmed that he was not exposed to much dust in the kiln. Tr. 619:2-9.

63. In addition, Messrs. Kingsley and Giddens admitted that dust or gas conditions in particular areas at the Plant could vary from day-to-day depending on weather and other factors. Thus, Mr. Giddens noted that day-to-day dust or gas conditions would be improved or made worse by varying weather conditions, and also that dust conditions in a particular process area would be affected when a dust collector in that area was down for repairs. Tr. 176:5-9; 183:3-184:1.

64. Mr. Kingsley testified that exposures in the yard varied depending on the weather. On direct examination, plaintiffs' counsel asked Mr. Kingsley whether there were days when the dust and gases were so pervasive that they covered the entire plant area. He responded: "It varied. No sir, it varied according to the wind...." [FN14] Tr. 117:4-23.

FN14. Although plaintiffs introduced a photograph (Px.130) showing what appears to be a white cloud emanating from a portion of the Plant, the evidence did not indicate that such emissions were persistent day-to-day over time. In fact, Mr. Giddens explained that such emissions would be released if the seal on an electrode had broken at the furnace (Tr. 179:4- 10), and Mr. Kingsley testified that emissions "changed from time to time" with changes occurring "according to the weather conditions" (Tr. 100:20- 101:6). The fact

that such emissions were not a constant is demonstrated by another photograph introduced by plaintiffs (Px.228) that does not show such visible emissions at all.

***11** 65. This worker testimony concerning differences in potential exposures among the various process areas and jobs at the Plant is particularly important because Workers did not routinely rotate among jobs at the Plant and, thus, did not have similar potential exposures. In fact, as a general rule, unless a worker took a new job through the Plant's bidding system, he simply would punch-in each day and go to his regular job at its location. Tr. 171:13-72:8.

66. In addition to Mr. Harris and the workers, Ms. Gross also testified that potential exposures varied depending upon the process area where each worker worked and his particular job. Tr. 345:3-347:9. Ms. Gross also testified that potential exposures could vary even within a job category. Tr. 345:7-9. Indeed, Ms. Gross testified that two individual workers performing the same job and job tasks could have had significantly different potential exposures because of differences in: (1) methods of performing their work; (2) work habits; (3) production; (4) supervision; (5) the time of day and shift worked; and (6) the use of personal protection and safety gear. Tr. 345:19-346:9; 365:5-23.

67. In short, the testimony demonstrates qualitatively that, throughout the life of the Plant, potential exposures varied based upon the distinct process areas of the Plant in which each worker worked. Moreover, neither Mr. Harris nor any of the workers who actually were at the Plant testified that any substance was at levels of concern on a Plant-wide basis.

68. Similarly, the documents upon which Ms. Gross relied, when placed in context, showed significant qualitative variability of exposures at different times, based upon the distinct process area of the Plant in which each worker worked and his particular job, and none demonstrated Plant-wide exposures above the PELs. For example, Ms. Gross cited to a number of documents (one each from 1968, 1972, 1974, 1975, and 1977) that were appropriation requests or the provision of additional information in connection with such requests. Px. 18, 40, 42, 45, and 84. Appropriation requests were requests and justifications made by the Plant's management to Stauffer to obtain funding to upgrade or replace a particular piece of equipment because of a specific need at a specific point in time in the distinct process area where the piece of equipment was located. Tr. 238:2-18.

69. The 1968 appropriation request sought $35,000 to replace the condenser in the purification area because it had become too small to accommodate the Plant's increased production levels. This required the P4A operator to increase the hours he spent in the area and, in some instances, to complain about respiratory illnesses. The request also identified several efforts Stauffer already had made to improve working conditions in that particular area. Tr. 238:2-240:9; Px. 45.

70. The 1972 appropriation request arose after Stauffer had enclosed a portion of the kiln which had the unintended result of potentially exposing the workers in that process area to higher levels of gases and fumes from the nodule cooler. Plant management, therefore, was requesting $15,000 to create a separate room so that there was less likelihood that workers who worked in that enclosed area in the kiln would be potentially exposed to gas and fumes. Tr. 243:16-244:23; Px. 18.

***12** 71. The 1974 appropriation request sought $55,000 to purchase new control systems and a scrubber for the tap floor area in the furnace to meet regulations that would become operative in 1975. Tr. 252:17-23; Px. 40.

72. The 1975 appropriation request sought nearly $15,000 to upgrade the dust collection system in the burden bin area of the furnace building. Tr. 327:20-24; Px. 42.

73. The 1977 appropriation request sought $243,000 to improve the bag dust collecting system in the silo area which was not performing adequately at that time. Tr. 256:4-16; Px. 84.

74. Taken together, these appropriation requests do not reflect uniform Plant- wide exposures which were worse prior to 1975, but rather potential exposures to certain workers from specific pieces of equipment at particular times in distinct process areas of the Plant that were being addressed and fixed by Stauffer. [FN15]

FN15. Other documents cited by Ms. Gross also showed Stauffer's attempts to address problems to particular pieces of equipment at particular times: specifically, conveyor belt dust and roaster emissions in 1970 (Tr.

241:6-243:9, Px.217); and dust in the furnace electrostatic dust precipitator in 1970. Tr. 259:18-261:23; 328:10-330:1; Px. 165.

75. Ms. Gross also cited to a 1974 Stauffer environmental audit report, noting that she drew a negative inference from the words "not for issue," "preliminary" and "company confidential" that appeared at the top of the document. Ms. Gross pointed out that the document recited that, in specific areas of the Plant, dust and sulfur dioxide (SO2) emissions were above OSHA regulations--which Ms. Gross understood to mean above OSHA PELs. Ms. Gross testified that such exceedances would trigger both mitigation efforts and some form of monitoring. Tr. 245:18-250:14; Px. 164.

76. However, when Stauffer's counsel pointed out on cross-examination that on its face, the document indicated it was to be reviewed by a Stauffer official in a few days, Ms. Gross conceded that she did not know whether the document was labeled "preliminary" for that reason, and admitted that she was speculating in drawing negative inferences from its labels. Tr. 323:12-324:11. In fact, Ms. Gross acknowledged that environmental audits such as this are designed to identify and prioritize plant areas so that remedial actions can be taken, and that, while not all companies undertake such audits, it is not an unusual practice. Tr. 325:5-19. Ms. Gross also changed her testimony about OSHA monitoring, agreeing that she did not know whether the levels of dust and SO2 would have resulted in any monitoring by OSHA at all and admitting that SO2 was not even a substance at issue in this case. Tr. 324:12-325:4.

77. Ms. Gross also cited three specific OSHA citations received by the Plant: a 1971 citation for failing to have adequate respirators for the furnace helper; a 1975 citation relating to the handling and use of asbestos; and a 1979 citation that, in relevant part, related to respirators not being used when available. With respect to the last of these, Ms. Gross specifically advised the Court that, although another portion of the citation subsequently had been revoked by OSHA, the portion relating to the use of respirators had not. Px. 61, 169, 133; Tr. 264:1-265:22.

***13** 78. As a general matter, these OSHA citations reflect specific incidents at particular times in the Plant's history and not a general pattern that would potentially impact all Workers at all times. Equally significant, as shown on cross-examination, Ms. Gross's testimony about these three citations was either wrong or left much unsaid in material respects.

79. As to the 1971 citation, Ms. Gross agreed on cross-examination that the fine imposed by OSHA was only $30 and that, in the same time frame as the citation, Stauffer had issued respirators to the tappers and had specifically reminded all workers on the tap floor that they were required to wear a respirator when the tap hole was opened, and of the proper procedures for wearing and cleaning the respirators. Tr. 356:24-359:12; Dx. 50, 51. In addition, the OSHA compliance officer at the time advised Stauffer that the Plant was in such good shape overall that it might want to use the OSHA hygienist's report in its union negotiations to show what good condition the Plant was in. Tr. 359:13-360:7; Dx. 53.

80. With regard to the 1975 OSHA citation regarding the handling and use of asbestos, Ms. Gross conceded that OSHA itself had classified the violation as "non-serious," meaning that it had not involved a substantial probability that injury or serious physical harm could result and imposed a fine of only $140. Tr. 334:14-335:18; Dx. 63, 65. Moreover, in response to the citation, Stauffer performed asbestos sampling, and all measured levels were below OSHA's PEL. [FN16] Tr. 794:9-795:15; Dx. 35. In fact, all personnel samples for asbestos taken at the Plant at any time were below OSHA's PEL. Tr. 794:25- 795:9; 796:25-798:1; Dx. 34, 35.

FN16. Ms. Gross also cited a 1974 document indicating that the maintenance department was violating OSHA requirements by not wearing respirators when working with asbestos and by cutting asbestos in an improper fashion. Tr. 253:21-254:16; Px. 100. On cross-examination, however, Ms. Gross acknowledged that the document showed Stauffer addressing that situation and specifically directing that respirators must be worn by workers while handling asbestos or working inside dust collectors. Tr. 330:2-19.

81. With regard to the 1979 OSHA citation, Ms. Gross testified that while some portion of the citation had been revoked, the portion relating to respirators not being used when available was not revoked. Ms. Gross was wrong about the 1979 citation. When confronted on cross-examination examination with the OSHA revocation of it, she conceded that both portions of the citation--including the portion on

which she had relied--had been revoked by OSHA. Tr. 265:4-22; 320:22-323:6; Dx. 97, 99.

82. Most importantly, Ms. Gross left out of her testimony entirely that, in its entire history the Plant had only received one OSHA citation where exposure levels were above an OSHA PEL, involving a citation in 1978 for dust in the silo area that resulted when OSHA sampled two new dust collectors while they were being debugged and not yet fully functional. Tr. 685:24-687:11; Dx. 4, 86, 87, 24.

83. In short, these selective documents as well as the other "qualitative" information upon which Ms. Gross relied demonstrated, at most, that there were potential exposures to certain workers, in certain jobs, in certain distinct areas of the Plant at certain times. The qualitative information did not support Ms. Gross' opinion that exposures were worse and above OSHA PELs on a Plant-wide basis prior to 1975 when sampling data became available.

D. Changes At The Plant Over Its Lengthy History, And Differences In Worker Habits, Affected Potential Exposures.

***14** 84. Dr. Rock was the only expert witness to describe how equipment changes over the years affected potential exposures to Workers at the Plant in the seven separate distinct process areas previously described by Mr. Harris. [FN17] Tr. 780:15-790:7; Dx. 1. Dr. Rock's examples make clear that potential exposure levels in each of the process areas would have fluctuated during the more than 30 years the Plant was in operation, thereby indicating variability in potential worker exposures depending upon when a worker was employed in a particular process area. [FN18]

FN17. Mr. Harris testified regarding equipment changes which materially changed working conditions and potential worker exposures during 1974 to 1981 when he was at the Plant and it was operational. Tr. 716:2-6; 721:18-722:15.

FN18. Mr. Giddens testified that in his 30 years working at the Plant, conditions in each of the separate process areas did not change. Tr. 167:1-168:21; 169:12-170:13. If Mr. Giddens's testimony is accurate, then the sampling data would be reflective of conditions both before and after personnel sampling was done. Thus, for the entire tenure of the Plant, potential exposures would have been widely variable and generally below current PELs. Certainly, there is no reason to believe--and the plaintiffs offered no evidence to suggest--otherwise.

85. Dr. Rock testified, for example, that each of the following equipment changes affected potential exposures to various workers: (1) the addition of bag houses in the unloading/conveyor area in the late 1960s (Tr. 782:18-24); (2) the installation of two scrubbers in the kiln to collect gases in the early 1950s (Tr. 782:1-17); (3) the installation of scrubbers to collect dust in the coke drying area in the late 1960s and early 1970s (Tr. 783:16-784:2); (4) the installation of new, higher capacity bag houses in the silo area in the late 1970s (Tr. 784:16-785:3); (5) the building of a control room and revised ventilation system in the furnace in the early 1970s (Tr. 784:3-15; 785:15- 788:2); and (6) the installation of a Koppers precipitator in the purification area in 1970. Tr. 786:25-791:7.

86. The extent of Stauffer's engineering efforts was confirmed by Mr. Kingsley. He admitted that, during the time he was at the Plant, Stauffer instituted a number of engineering changes, particularly in the area of dust collection. Tr. 101:10-19; 136:7-13. These continued after he left Stauffer's employ to the extent that, at the time the Plant closed, it was "completely different ... than ... when [he] worked there," and he would not even recognize parts of it. Tr. 111:3-22; 136:14-17.

87. All of these equipment changes and others (some of which are contained in Dx. 1) affected potential Worker exposures in the distinct process areas of the Plant over its 35-year history, and reflected accepted hygiene practice and available technology and emissions standards as they evolved over time. Tr. 789:21-790:7; 791:3-7; 825:22-826:9; 777:10-16; Dx. 1.

88. In addition to the equipment changes, Dr. Rock also testified as to various process changes that affected potential Worker exposures over time. Tr. 792:2-12; Dx. 2, 3. For example, one such change occurred in the furnace building in 1964, when the electrode seals were replaced with water seals and no longer packed with loose asbestos but instead packed with asbestos rope. Asbestos rope did not produce the same potential exposure to asbestos to the furnace workers who handled it as did loose asbestos. [FN19] Tr. 792:2- 793:19; Dx. 2, 3. In 1978, all asbestos rope

was eliminated from use in packing the electrodes in the furnace building; as a result, there was no potential exposure to asbestos to workers in the furnace building from the electrodes thereafter. Tr. 798:9-20.

> FN19. Ms. Gross agreed that when the Plant changed from using loose asbestos to asbestos rope to pack the electrodes, it most likely would have significantly changed exposure to asbestos to workers in the furnace building. Tr. 389:9-13; 390:13-20.

***15** 89. Similarly, changes in work habits and the use of respiratory protection equipment affected potential Worker exposures over time. Tr. 798:21-805:9.

90. From at least the early 1950s, any of the workers could request respirators when they needed them. Certain workers, depending upon their individual work habits would request them and could obtain a new respirator when needed. Tr. 127:14-23; 543:21-24; 559:7-560:2; 798:21-799:7. Over time, Stauffer upgraded its respirators. Tr. 174:3-12; 182:10-14; 549:3-10; 560:16- 22.

91. No later than 1964, Stauffer initiated a formal written respiratory protection program at the Plant. Tr. 799:8-800:10; Dx. 46. Respirators were purchased and available to all employees on a voluntary basis. Tr. 800:12- 801:11; Dx. 55, 56, 57.

92. In the early 1970s, respirators were required in certain process areas of the Plant for certain jobs and job tasks. Tr. 802:13-805:15; Dx. 22, 23, 50, 51, 100. For example, workers packing the electrodes with asbestos rope were required to wear respirators. Furnace tappers, furnace operator helpers, and utility men were required to wear respirators when tapping and flushing the furnace.

93. In 1978, Stauffer initiated a formal written mandatory protection program. Tr. 801:13-802:11; Dx. 30, 31, 32. All Workers were required to have respirators and wear them when warranted and in the case of an upset or P2 O5/H3PO4 release, which was their primary use. Tr. 711:23-712:14.

94. The degree to which a respirator was worn also varied job to job and individual to individual. Ivan Hoyte noted that he did not need to wear the respirator all of the time, but only when he did "any job with dust" or when it "helped to keep away ... the fumes ." Tr. 604:1-6; 623:11-14. Mr. Kingsley also testified that, in a lot of jobs, he did not wear his respirator because there was not a lot of dust. Tr. 125:16-25; 130:7-12. For example, when he was working with raw materials in the yard or operating the switch engine or the diesel electric, he typically would not wear a respirator because the conditions did not warrant it. Tr. 135:15-25. "Most of the time you wouldn't, no, sir." Tr. 135:23-25. Mr. Giddens also used his respirator whenever he thought it was necessary in a particular job. Tr. 182:15-19.

95. However, not all workers used their respirators at appropriate times or properly. Mr. Malcolm, for example, testified that Stauffer's supervisors had explained to the Workers that, to operate correctly, the respirator had to have a firm fit to the face and that a proper sealing surface could only be achieved with a clean shaven face. Tr. 549:19-24; 560:23-561:14. Mr. Malcolm understood that it was important to have a properly sealed surface because, as he admitted on direct examination, if his respirator were not properly fit, he would be at risk for silicosis. Tr. 553:16-20. He nevertheless on occasion disregarded Stauffer's admonitions to shave his beard so that he could get a proper fit. Tr. 561:24-562:4. In fact, while employed at the Plant, he was disciplined three times (receiving a verbal reprimand, a written reprimand, and finally a three-day suspension), for not shaving. Dx. 208, 209, 210.

***16** 96. The workers also disagreed among themselves as to the degree of training they received regarding the use and imp ortance of their respirators. Although Mr. Giddens did not believe he had been trained in using the respirator or required by Stauffer to wear it at particular locations (Tr. 174:13-25; 182:10-19), and Ivan Hoyte testified that he never attended any safety meetings regarding respirators (Tr. 601:9-18), Mr. Kingsley stated that Stauffer held safety meetings at which the company instructed the Workers to wear their respirators when it was appropriate (Tr. 126:14-127:10) and Mr. Malcolm indicated that Stauffer supervisors always strongly encouraged Workers to wear them. Tr. 559:2-17.

97. Supervisors also explained to the Workers that the respirator filter had to be changed on a periodic basis. Tr. 550:15-551:17. Again, however, the degree to which the workers followed this instruction varied among the individual workers. *See* Px. 87.

98. This evidence regarding changes in the Plant's physical equipment, processes, and protective equipment, as well as individual differences in the use of such equipment, further supports the Court's

view that plaintiffs could not account, on any class-wide basis, for the differences in potential Worker exposures from different substances, in different process areas, in differing amounts, for different amounts of time, in differing jobs, in different ways over the 35-year history of the Plant. Therefore, Worker exposures would have to be evaluated on a worker-by-worker basis.

E. Plaintiffs' Proposed Air Dispersion Model Does Not Obviate The Need For Individualized Proof Of Exposure.

99. Plaintiffs proposed that, despite the wide variability in potential Worker exposures demonstrated by the quantitative and qualitative evidence, they nevertheless could satisfy their burden of proving exposures on a class-wide basis at trial through the use of an air dispersion modeling expert, Mr. James Tarr. Tr. 1098:24-1100:3; 1101:11-1103:6; 1118:20-22.

100. Mr. Tarr theorized that, by determining Plant equipment and other air emission sources (Tr. 1127:6-22), emission rates for the substances at issue from those sources (Tr. 1128:8-1129:24), efficiency of air emission control devices (Tr. 1134:19-1135:6), and upper air and surface meteorological data (Tr. 1137:17-23; 1156:20-1157:13)--including changes over the life of the Plant for each of those factors (Tr. 1127:20-1128:7; 1131:18-1132:6; 1142:6-22; 1157:25-1158:8)--he could, by application of an air dispersion computer model ("the model"), recreate ambient air concentrations of various substances at different locations on the Plant site on any given day in any given year during the life of the Plant. Tr. 1141:4-13; 1152:3-8. The Court notes that Mr. Tarr has not as of yet attempted to undertake any modeling. Tr. 1152:3-11.

101. Although plaintiffs argue that the model will solve the problem of class- wide proof of exposures, it does not do so for the following reasons:

***17** (a) Mr. Tarr testified that it was necessary to identify and determine equipment and changes in that equipment over the life of the Plant, changes in emission rates over the life of each piece of equipment, and periods of Plant or equipment shutdown over the life of the Plant, but that he did not know whether sufficient information existed to make such determinations. Tr. 1154:1- 1155:17;

(b) Mr. Tarr testified that running the model requires a variety of pieces of localized surface air (wind speed, wind direction, atmosphere, temperature and probably precipitation) and upper air (changes in temperature with height above the air surface) meteorological data (Tr. 1156:20-1157:13), but that the closest source of surface air data is 20 miles away from the Plant (at either Tampa International Airport or MacDill Air Force Base) [FN20] and the closest location for upper air data is even farther away. Tr. 1158:9-21; 1159:1-8;

FN20. The Court takes judicial notice of the fact that weather conditions in Tampa on any particular date or at any particular time of day, especially with respect to rain or wind speed, do not necessarily reflect conditions at a specific area of a specific plant in Tarpon Springs on the same date or time. Plaintiffs provided no evidence to the contrary.

(c) Mr. Tarr testified further that, even with sufficient data, the model cannot be used to model air concentrations inside buildings (which is where many of the workers worked) at the Plant. Tr. 1160:3-9; and

(d) As Mr. Tarr testified, even with complete information, the model can only predict ambient air concentrations and thus *potential* exposures to Workers--to determine what a worker's *actual* exposures were while working at the Plant requires knowledge of where in the Plant he or she was over the course of their employment and when he or she worked at the Plant. Tr. 1161:12-1162:4. As Mr. Tarr further testified, that information will vary from worker to worker. Tr. 1162:10-16.

102. Thus, even if all of the considerable informational problems associated with the model could be alleviated, it still would not obviate the need for individualized proof to establish each worker's actual exposures at the Plant.

III. DISEASE RISK IS DOSE DEPENDENT AND CANNOT BE ASSESSED ON A CLASS-WIDE BASIS.

A. Prior To The Hearing, Plaintiffs' Experts Disavowed Any Opinion That The Workers' Exposures Placed Them At Significant Increased Risk Of Latent Disease.

103. Prior to the hearing, plaintiffs had no expert testimony that any or all of the Workers were at a significant increased risk (as *Petito* requires) of

contracting any latent disease due to any alleged exposure at the Plant.

104. Ms. Gross' expert report did not contain the word "significant," nor did she opine in her expert report or deposition that any or all of the Workers were at a "significant increased risk of contracting a serious latent disease." Tr. 313:5-21. In her deposition, Ms. Gross was asked the question, "Can you say that any of the workers are at a significant increased risk of getting any disease" and she answered, "I can't say that. I'm not a physician. I don't do that kind of evaluation." *Id.* In fact, *four days* prior to the hearing, plaintiffs stated in their Reply to Defendants' Memorandum in Opposition to Plaintiffs' Motion for Class Certification that, "[d]efendants make much of the fact that Ms. Gross did not opine that the workers were at a significantly increased risk of disease. That is not what Ms. Gross was asked to do and *not what she is qualified to do."* Pls' Reply Def's Mem. Opp'n Pls' Mot. Class Cert. at 3 (emphasis added). [FN21]

FN21. Ms. Gross is not a medical doctor or toxicologist. She holds no doctoral degrees. She admitted that she is not an expert on medical monitoring, has not published any articles on medical monitoring and could not design a medical monitoring program. Tr. 307:10-17; 307:20-22; 308:15- 309:11.

***18** 105. Despite Ms. Gross' admitted lack of qualifications and lack of prior opinions on the issue, and over Stauffer's objection, Ms. Gross testified at the hearing that the Workers were at a significant increased risk of disease. Tr. 319:5-320:1. However, Ms. Gross was silent as to: (1) which latent disease(s) the Workers allegedly were at a significant increased risk of contracting; and (2) the methodology by which she reached her newly-formed opinion.

106. Similarly, Dr. Pepper's expert report did not contain the word "significant," nor did he opine in his deposition that any or all of the Workers were at a "significant increased risk of contracting a serious latent disease." Tr. 469:6-19. Furthermore, as Dr. Pepper admitted on cross- examination, he testified in his deposition that, as an expert in this case, he would not use the word "significant." Tr. 519:10-16.

107. However, over Stauffer's objection, Dr. Pepper too opined at the hearing that all Workers were at a significant increased risk of disease. [FN22] Tr. 450:9-451:2. He too did not set forth the methodology by which he reached his newly-formed opinion. Moreover, he admitted that in coming to this newly-formed opinion, he had not assessed the individual risk of disease for any worker at the Plant. [FN23] Tr. 470:13-15.

FN22. Dr. Pepper was only able to give this testimony after plaintiffs' counsel defined the term "significant increased risk" for Dr. Pepper because he claimed he did not know what the term "significant increased risk" meant. Tr. 449:23-451:2.

FN23. Mr. Tarr did not mention disease risk in his expert report, nor did he mention it at the hearing.

108. Several factors cause the Court to question the scientific reliability of Ms. Gross's and Dr. Pepper's opinions that the Workers are at "significant" increased risk of disease. First, the opinions were offered at the hearing after plaintiffs' counsel's express admission just four days prior to the hearing that Ms. Gross was neither qualified nor asked to render such an opinion and despite Dr. Pepper's pre-hearing testimony that he would not use the word "significant" in this case. Second, in each case, plaintiffs' expert offered only a conclusory opinion, without any explanation of the methodology by which she or he reached that opinion. Finally, each of these experts subsequently admitted, *see infra,* at ¶ ¶ 109, 121-128, that they had failed to consider various factors--such as worker tenure and dose--that they conceded must be taken into account in assessing whether any worker or group of workers is at a significant increased risk of disease. Based on these factors, the Court concludes that Ms. Gross's and Dr. Pepper's conclusory opinions on significant disease risk are of questionable scientific reliability and insufficient for class certification.

B. The Worker Tenure Data Demonstrated That Disease Risk Varies Worker To Worker.

109. Both Ms. Gross and Dr. Pepper testified that, in assessing increased risk of latent disease for any individual worker or group of workers, one needs to establish conditions of exposure, including, but not limited to, the length of time the worker was employed at the Plant (worker tenure) and the time period of the exposure. Tr. 353:7-13; 467:16-468:11. However, both Ms. Gross and Dr. Pepper conceded that in rendering their opinions regarding increased

risk of latent disease, neither expert had any information concerning worker tenure, nor did they know the time period of the alleged exposures for any individual worker or group of workers at the Plant. Tr. 353:7-15; 475:7-476:1.

***19** 110. In his draft report, however, Dr. Pepper made clear that any worker who worked at the Plant for less than one year would not be at a significant increased risk of latent disease and would not be a candidate for medical monitoring. Tr. 484:19-485:1; 486:3-14; Dx. 113. [FN24] Dr. Pepper testified that medical monitoring plans often have an entry criterion of one year as he originally proposed for the Workers because people employed for shorter time periods are not thought to have long enough exposures to be at a significant risk of latent disease. Tr. 486:3-14.

FN24. On re-direct examination, Dr. Pepper offered no valid explanation as to why he was now recommending medical monitoring for workers who worked at the Plant less than one year and stated that he had decided that it was not appropriate to determine which, if any, workers, based on their tenures, needed medical monitoring at this time. Tr. 522:23- 523:22.

111. Dr. Pepper's one-year entry criterion for the Workers to receive any medical monitoring was consistent with the Agency for Toxic Substances And Disease Registry's and the Florida Department of Health's decision to send a Worker Safety Announcement only to workers who worked at the Plant for more than one year. Px. 140. The Worker Safety Announcement discussed the potential increased risk (which was not deemed significant) to workers who worked at the Plant for more than one year from exposure to "very low levels of arsenic and ionizing radiation,"--two substances about which Dr. Pepper did not even opine at the hearing. *Id.* It mentioned no other substances.

112. In contrast to plaintiffs' experts, Stauffer's experts had considered worker tenure and the time periods of the exposures in assessing increased risk of latent disease for the Workers. Tr. 773:12-777:2; 898:5-899:22; 904:13- 905:3; 949:7-951:15; 963:18-964:19; 1051:11-1053:9; 1062:15-25; 1092:4-18. At the hearing, Dr. Rock testified, based upon his review of the actual worker tenure data from the Plant, that approximately 76% of the workers were employed at the Plant less than one year and almost 60% were there less than three months. Tr. 773:12-774:4; 764:15-765:10; Dx. 169.

113. Plaintiffs' counsel cross-examined Dr. Rock with respect to the following: (1) at the time Dr. Rock wrote his expert report and was deposed, he was relying upon a spreadsheet of the worker tenure data prepared by defense counsel for which he had spot-checked roughly 15% of the data for accuracy [FN25] (Tr. 831:1-16); (2) because names and social security numbers had been redacted from the worker tenure data he had reviewed, there may be inaccuracies in the percentages [FN26] (Tr. 832:24-835:3); and (3) plaintiffs' counsel's review of the spreadsheet showed that roughly 25% of the 76% of workers who worked at the Plant less than one year were employed between 1947-1950 and were, in plaintiffs' counsel's view, more likely (because older) to be deceased than workers who were employed later in the Plant's history and, therefore, the percentage of the proposed class of living workers could be less than 76%. Tr. 835:15-842:12.

FN25. Dr. Rock testified that it was consistent with industrial hygiene practice to spot-check the data and there is no testimony to the contrary. Tr. 774:5-775:9. More importantly, Dr. Rock testified that, following his deposition, he reviewed 100% of the worker tenure data, and concluded there were no errors requiring a change in his opinions. Dr. Rock testified he was confident that 76% of the workers had worked at the Plant less than one year. Tr. 773:12-775:9; 764:15-766:4; 876:18-22.

FN26. Dr. Rock testified on re-direct examination that the documents he had reviewed in fact had names that were not redacted for roughly 70% of the workers (Tr. 876:8-17), and that he had minimized any potential inaccuracies in the percentages by checking bates numbers for all of the worker tenure data. Tr. 833:20-834:17.

114. Careful consideration of plaintiffs' counsel's cross-examination of Dr. Rock with regard to the worker tenure data, however, tends to support--not undercut--Dr. Rock's conclusion that worker tenure was quite short and that approximately 76% (or approximately 1,900) of the 2,500 individuals who ever were employed at the Plant worked there for less than one year. Plaintiffs have alleged that only living

workers are members of the putative class and that there are approximately 1,800 such living workers. Second Am. Compl. ¶ 38. Thus, there are about 700 individuals (*i.e.,* 2,500-1,800) who worked at the Plant and, because they are deceased, are not included in plaintiffs' class. Taking the import of plaintiffs' counsel's argument to its full extent, even if the Court were to assume that every one of the 700 deceased individuals worked at the Plant for less than one year, that would still leave 1,200 living workers who were at the Plant for less than one year (1,900-700). Those 1,200 workers would make up 67% of the putative class of 1,800 living workers. Thus, the percentage of workers who were at the Plant for less than one year logically must fall between the 67% generated by this most extreme formulation of plaintiffs' counsel's argument (where all the workers during the 1947-1950 period who worked less than one year are presumed to be among the 700 dead) and the 76% computed by Dr. Rock. This is a meaningless distinction for purposes of assessing class certification.

***20** 115. Furthermore, none of plaintiffs' experts: (1) reviewed or critiqued Dr. Rock's analyses of the worker tenure data, even though it was made available to plaintiffs' counsel at Dr. Rock's deposition months before the hearing (Tr. 775:10-23); (2) contradicted the accuracy of Dr. Rock's analyses of the worker tenure data or the methodology he employed in assessing such data; or (3) offered a contrary analysis of the worker tenure data. [FN27]

FN27. The fact that worker turnover was high and tenures short is consistent with what Messrs. Kingsley and Malcolm observed when they were at the Plant. Mr. Kingsley acknowledged that in his eight years at the Plant, many workers would work just a few days, or a month or two, and then quit "because it was so hot and dirty that they didn't want that kind of work," but instead "they wanted a clean job." Tr. 137:12-20. Although Mr. Malcolm initially testified at the hearing that he did not recall whether there was a lot of turnover at the Plant, that was inconsistent with his deposition where he admitted seeing a lot of worker turnover, with many individuals working for just a short period of time before leaving. Mr. Malcolm indicated that the deposition testimony refreshed his recollection that there were a number of workers who decided the job was not for them and did not stay long. Tr. 565:17-566:25.

116. In addition, Dr. Rock's analyses regarding worker tenure data at the Plant are consistent with the analysis regarding worker tenure data discussed in the peer-reviewed published epidemiology studies of Florida phosphate industry workers done by Dr. Harvey Checkoway (discussed *infra,* at ¶ ¶ 129-132). In Dr. Checkoway's first epidemiology study published in 1985, Dr. Checkoway looked at employment records for 60,000 workers who worked in the Florida phosphate industry from 1948-1978 (including workers who worked at the Plant during those years), and determined that over 60% of those workers had worked in the industry for less than one year--which is within the same general range as Dr. Rock's findings. *See* Dx. 287 at pg. 887; Tr. 955:3-956:16. [FN28]

FN28. The cohort of workers in Dr. Checkoway's follow-up epidemiology study published in 1996 is essentially the same group of workers included in the first study. *See* Dx. 310 at 453.

117. Dr. Rock's analyses regarding the worker tenure data are thus reliable and consistent with the peer-reviewed epidemiological literature. It is therefor clear from the evidence that a substantial majority (and perhaps as much as 76%) of the workers were employed less than one year and that worker tenure varied significantly.

118. Dr. Krieger, an occupational health physician and medical toxicologist, [FN29] who testified on behalf of Stauffer, was the only board certified toxicologist to testify at the hearing. [FN30] For silica, which Dr. Pepper identified as the "representative toxin" (Tr. 440:21-441:3), Dr. Krieger testified that any worker who worked at the Plant less than one year was not at any increased risk of contracting any silica-related latent disease as a result of any exposure at the Plant. Tr. 949:7-951:15. Thus, based on the worker tenure data, approximately 76% of the Plant workers were not at any increased risk (let alone a significant increased risk) of contracting any silica-related latent disease from having worked at the Plant. [FN31] With regard to the remaining 24% of the Plant workers, those workers who worked at the Plant more than one year, Dr. Krieger testified that determining the extent of the increased risk (and whether any such risk is significant) of contracting

any silica-related disease would have to be done on an individual-by-individual basis. Tr. 949:7-951:15. More generally, Dr. Krieger testified that the extreme variation in worker tenure prevented any assessment of health risk on a group- wide basis. Tr. 904:13-905:3.

FN29. *See* Dx. 140.

FN30. Each of plaintiffs' three experts admitted they are not toxicologists and it is undisputed that none of them are board certified in toxicology. Tr. 307:16-17; 466:17-19; 1148:18-20.

FN31. When Dr. Pepper was confronted on cross-examination with the worker tenure data and asked whether the short tenure of the majority of workers would affect his opinions as to whether or not all the workers were at a significant increased risk of disease and in need of medical monitoring, Dr. Pepper stated that he did not know if it would affect his opinions because the short worker tenure was only "a hypothetical, which I'm not going to deal with." Tr. 481:20-483:21. However, Dr. Pepper's draft report made clear that he did not believe any worker who worked at the Plant less than one year was at a significant increased risk of disease warranting medical monitoring. Tr. 484:3-485:1; 486:3-14; Dx. 113.

119. Dr. Herzstein, Stauffer's expert on occupational and environmental disease and medical monitoring, [FN32] testified that based on the worker tenure data, and other information from the Plant, there was no evidence that any of the workers or group of workers had a significant exposure or significant dose to be at an increased risk of disease. Tr. 1051:11-1053:9; 1092:4-18.

FN32. *See* Dx. 142.

***21** 120. In light of the data and testimony regarding worker tenure and its relationship to disease risk, the Court finds that the extent of the latent disease risk (and specifically whether any worker is at significant increased risk of latent disease) will vary among the class members and cannot be shown with class-wide proof.

C. Dose And Disease Risk Must Be Determined On A Substance And Worker Specific Basis.

121. Both Ms. Gross and Dr. Pepper conceded that dose, not exposure, is the critical factor in assessing the extent of the increased risk of latent disease associated with occupational exposure and that dose necessarily will vary from worker to worker. Tr. 349:14-350:18; 467:16-468:3.

122. Ms. Gross testified that dose is "definitely" different from exposure; that dose is what actually is absorbed into the body; and merely because a person is exposed to a substance does not mean he/she has absorbed a dose. Tr. 281:17-282:1; 349:8-13. In fact, Ms. Gross agreed in cross-examination that, in determining toxicity, dose is critical (Tr. 349:14-16) and will vary from person to person based upon a number of individual factors. These factors include the amount of the particular substance to which the person was exposed; how long and how frequently the person was exposed; whether or not that person wore a respirator at the time of exposure (and whether he or she wore it properly); the person's cumulative amount of exposure; and that person's weight, underlying respiratory status and breathing rate, and general state of health. Tr. 349:20-350:18; 365:5-9. In addition, a number of other individual factors also play a part in determining the extent of a person's disease risk, including family history, exposures outside the workplace, age, exercise, diet, lifestyle, and smoking history. Tr. 354:3-24.

123. Ms. Gross further agreed that the dose has to reach a particular level for a certain amount of time before it has any toxicological significance. This "threshold dose" varies from substance to substance, although the precise level needed to reach this threshold is not known for all substances. Tr. 350:19-352:6. In addition, Ms. Gross admitted that she has written that "when establishing the existence of an adverse effect, it is also necessary to know the relationship between intensity of exposure and severity or probability of the adverse effect. That is to determine the dose-response relationship." Tr. 352:7-352:25.

124. Ms. Gross did not determine the dose that any worker may have absorbed for any substance at issue and had no way of knowing whether any of the workers absorbed a toxicologically significant dose of any of the substances at issue in this case. Tr. 281:1-16; 353:19-354:2.

125. Finally, Ms. Gross testified that epidemiology is important in assessing the extent of the increased risk of latent disease in any exposed-worker population. However, she did not actually review Dr. Checkoway's epidemiological studies on the Florida phosphate workers before testifying at the hearing. Tr. 374:5-15.

***22** 126. Dr. Pepper, like Ms. Gross, testified that it is dose, rather than exposure, which is the critical element in determining the extent of the increased risk of latent disease associated with occupational exposures and that dose varies from person to person based upon a number of individual factors. These individual factors include, but are not limited to: (1) frequency of exposure; (2) duration of exposure; (3) job; (4) age; (5) size; (6) body weight; (7) respiratory status and rate; (8) health status; and (9) use of protective gear. Tr. 467:16-469:1.

127. Dr. Pepper further agreed that the dose has to reach a particular level or threshold for a certain amount of time before it has any toxicological significance. That toxicological concept is encompassed in the phrase "the dose equals the poison," which Dr. Pepper uses in many of his lectures. Tr. 466:23- 467:1.

128. Dr. Pepper, like Ms. Gross, did not determine the dose that any worker may have absorbed, and, therefore, could not testify whether any worker absorbed a toxicologically significant dose of any of the substances at issue. Tr. 469:2-5.

129. Dr. Pepper, unlike Ms. Gross, actually reviewed Dr. Checkoway's epidemiological studies of the Florida phosphate workers before testifying at the hearing. Tr. 470:16-19. Dr. Pepper described Dr. Checkoway as a world- renowned and respected epidemiologist who performed two epidemiological studies on approximately 23,000 workers in the Florida phosphate industry, including the elemental phosphorous segment of that industry, who worked for more than one year between 1947-1992. Tr. 470:20-471:2; 472:10-473:6. Dr. Checkoway did not include in his studies the workers who had worked in the Florida phosphate industry for less than one year because he did not believe they were employed long enough to be at a significant increased risk of any latent disease. Tr. 486:3-14; 955:6-956:16; Dx. 287 at p. 887. Both of Dr. Checkoway's epidemiological studies of workers in the Florida phosphate industry are published in the peer-reviewed literature. Dx. 287, 288, 310; Tr. 957:12-958:4.

130. Dr. Checkoway's epidemiological studies of workers in the Florida phosphate industry are cohort mortality studies. In cohort mortality studies the epidemiologist compares disease rates in exposed workers to disease rates in persons who were not exposed to determine if there is an elevated disease risk in the exposed population. Tr. 910:6-911:13.

131. Dr. Checkoway's cohort mortality studies of the Florida phosphate workers included all of the sampling data from the Plant as well as other industry sampling data obtained from OSHA, NIOSH, and the Florida Department of Health. Tr. 954:18-955:2. Dr. Checkoway looked at the workers based upon their different potential exposures and job categories recognizing that the exposures and risks of latent disease would differ by potential exposures and job category. Tr. 955:6-957:11. Dr. Checkoway specifically looked at potential exposures to a variety of substances, including, but not limited to, dust and silica, and whether they could result in any significant disease risk in any job category. Tr. 473:7-22; 956:17-959:7.

***23** 132. Dr. Checkoway concluded: (1) there was no excess disease risk to workers in any job category from exposure while working in the Florida phosphate industry (Tr. 453:16-22; 958:5-959:7); (2) there was no excess disease risk to workers in any job category from exposure to silica while working in the Florida phosphate industry (*id.*); (3) mortality rates from lung cancer and other diseases were not remarkably excessive in workers employed in the Florida phosphate industry (Tr. 474:7-16; 958:5-959:7); and (4) important associations between exposures and excess disease risk were not likely missed or underestimated due to the size of the cohort in the studies (Tr. 958:5-959:7). In short, Dr. Checkoway found no pattern of significant disease risk in the Florida phosphate workers. Tr. 959:8-18.

133. Dr. Pepper has not assessed any individual worker's disease risk from any substance at issue in this case. Tr. 469:2-19; 470:13-15.

134. With regard to the disease risk for all Workers at the Plant for the substances at issue--silica, phosphorous, P2O5/H3PO4 and noise--Dr. Pepper testified as follows: (1) he acknowledged that he did not have an estimate of how many months a worker would need to have been exposed to silica to have absorbed a sufficient dose to be at a significant increased risk of silica-related latent disease (Tr. 499:9-21); (2) based on the sampling data from the Plant, he could not say that all Workers are at a significant increased risk of latent disease due to phosphorous exposure (Tr. 509:8-14); [FN33] (3)

exposures to P2O5/H3PO4 do not result in any latent disease for which the Workers would be at a significant increased disease risk (Tr. 507:6-508:10); and (4) based on the sampling data from the Plant, he would be "hard-pressed" to say all Workers were exposed to noise at levels sufficient to be at a significant increased risk of hearing loss. Tr. 506:14-21.

FN33. The only latent disease Dr. Pepper associated with phosphorous exposure was phossy jaw. He conceded there was no literature to support his opinion that the Workers were at any increased risk of phossy jaw now--20 years after last exposure. Tr. 508:11-509:21.

135. Dr. Pepper rendered no opinions at the hearing as to whether the workers in the furnace building were at a significant increased risk of latent disease due to asbestos, whether the mechanics were at a significant increased risk of latent disease due to chromium or whether the painters were at a significant increased risk of latent disease due to lead. [FN34] With regard to fluoride, Dr. Pepper testified that he could *not* state that the kiln and yard workers were at any increased risk of latent disease. Tr. 517:22-25.

FN34. With regard to the disease risk to painters from lead and mechanics from chromium, Dr. Pepper conceded there was no peer-reviewed literature to support an opinion that they were at an increased risk of disease now--20 years after last exposure. Tr. 513:4-11; 515:2-516:10.

136. Stauffer's expert, Dr. Krieger, testified that the scientific methodology that must be followed to assess whether or not the Workers are at a significant increased risk of latent disease, individually or as a group, requires the ability to assess and calculate cumulative exposure [FN35] or dose based on individual factors including specific exposures, duration of exposure, frequency of exposure, job duration, use of personal protective gear, age, weight, ethnicity, and pre-existing medical problems and then to compare those cumulative exposures or doses to the cumulative exposures or threshold doses shown in the scientific literature to be associated with a significant increased risk of latent diseases. Tr. 898:5-899:19.

FN35. Cumulative exposure is the concentration of material at the exposure point where a person is times the frequency and duration they are there. Tr. 897:10-898:4. In the absence of more detailed information, cumulative exposure is sometimes used in scientific studies as a surrogate measure of dose. *Id.*

***24** 137. There is ample evidence that plaintiffs' experts did not follow the proper scientific methodology for determining whether it could be shown on a group-wide basis that all of the Workers are at a significant increased risk of disease. Tr. 901:14-20; 902:9-15. Plaintiffs' experts have not attempted to assess or calculate cumulative exposure or dose for any of the workers or group of workers for any of the substances at issue, nor have they shown such assessment or calculation can be done on a group-wide basis. Tr. 899:20-22; 281:1-16; 353:19-354:2; 469:2-5. Furthermore, because plaintiffs' experts did not assess cumulative exposures or dose for any of the workers, they could not compare those cumulative exposures or doses to the cumulative exposures or threshold doses known in the scientific literature to result in a significant risk of latent disease.

138. When Dr. Krieger followed the proper scientific methodology and assessed cumulative exposures and doses for the Workers, he concluded there were no common or typical cumulative exposures or doses for the Workers and that they had to be assessed individually by substance and worker. Tr. 888:12-889:2; 893:2-894:20. Moreover, Dr. Krieger concluded that it was not scientifically or medically possible to assess whether the cumulative exposures or threshold doses have been exceeded for the Workers as a group because there was too much individual variation among the Workers depending upon how long and how they did their job, the length of their job tenure, the process areas in which they worked, where the potential exposures were in relationship to where the worker worked, whether their jobs changed during the course of their tenure at the Plant, and whether they wore personal protective equipment. Tr. 904:13-905:3.

139. In addition, Dr. Krieger testified that in determining increased risk of latent disease, the latency period for contracting disease (the time between first exposure and onset of disease) has to be taken into consideration, and it too would depend on

several individual factors, including the specific substance, the cumulative exposure or dose, individual susceptibility, and individual life-style habits, particularly smoking. Tr. 905:4-906:14; 907:11- 908:2.

140. Dr. Krieger further testified that there is no common significantly increased risk of latent disease among the Workers and that the extent of the increased risk, if any, cannot be determined medically and toxicologically on a group-wide basis but must be determined worker-by-worker. Tr. 888:12-889:2; 893:2-894:20.

141. Specifically, with regard to the substances at issue for all Workers, Dr. Krieger testified that he reviewed the scientific literature on silica to determine whether all Workers or any group of workers at the Plant were at a significant increased risk of latent silica-related disease. Based upon that review, Dr. Krieger testified that the hallmark of all the silica studies is that they calculate cumulative exposures to assess the significance, if any, of the increased risk of silica-related disease. Almost uniformly, the silica studies have, at a minimum, at least a one-year entry criterion (approximately one-half of them have an entry criterion longer than one year) because science has concluded that cumulative exposures to silica in workers exposed less than one year will not result in a cumulative exposure or dose that results in a significant increased risk of latent silica-related disease. Tr. 928:16-929:6; 944:7-949:6.

***25** 142. Based on this scientific literature and information from the Plant, Dr. Krieger concluded that workers who worked at the Plant for less than one year did not receive a cumulative exposure or absorb a sufficient dose of silica which would put them at a significant increased risk of latent silica-related disease. [FN36] Tr. 949:7-951:15. With regard to workers who worked at the Plant for more than one year, their risk of latent silica-related disease would have to be assessed on a worker-by-worker basis. Tr. 949:7- 951:15. As a group, however, the Workers are not at significant increased risk of latent silica-related disease, including lung cancer and silicosis. Tr. 926:11-18.

FN36. This testimony is consistent with both Dr. Pepper's draft report (Dx.113), which made clear that any worker who worked at the Plant for less than one year would not be at a significant risk of latent disease, and ATSDR's and the Florida Department of Health's decision to send a Worker Safety Announcement only to workers who worked at the Plant more than one year because only such workers could potentially be at an increased risk of disease from arsenic and ionizing radiation (which are not at issue in this case).

143. With regard to phosphorous, Dr. Krieger testified that the Workers were not at a significant increased risk of latent disease because the latency period for any disease caused by phosphorous already had passed for all Workers. Tr. 959:19-960:9. Plaintiffs' experts did not dispute that testimony.

144. With regard to P2O5/H3PO4, Dr. Krieger testified that the Workers were not at a significant increased risk of latent disease because P2 O5/H3PO4 do not cause any latent disease. *Id.* [FN37] Again, plaintiffs' experts did not dispute that testimony.

FN37. P2O5/H3PO4 and phosphorous are not listed as known human carcinogens by any established regulatory agency. Tr. 960:10-16.

145. With regard to noise, Dr. Krieger testified that all of the Workers are not at a significant risk of hearing loss due to their exposures to noise at the Plant. Tr. 960:17-961:22. Again, plaintiffs' experts did not dispute that testimony. Thus, determining the extent of the disease risk for any worker would have to be done on an individual-by-individual basis. *Id.* [FN38]

FN38. Dr. Krieger also testified that the Workers were not at a significant increased risk of latent disease due to their exposure to arsenic (which is not at issue in this case). Tr. 1013:3-8.

146. With regard to the substances at issue for the sub-groups identified by plaintiffs' experts, Dr. Krieger testified that all furnace workers are not at a significant increased risk of latent disease due to their exposures to asbestos. Dr. Krieger expressed the opinion that determining the risk of latent disease for furnace workers would have to be done on a worker-by-worker basis because: (1) the high worker turnover precluded a determination of a common cumulative exposure to or dose of asbestos; (2)

furnace workers came and went at different rates and at different times and the form of asbestos used in the furnace area and the personal protective gear used when handling that asbestos varied over time; (3) the latency period for latent asbestos-related disease already had passed for many of the furnace workers; and (4) the sampling data showed that asbestos exposures were generally below even current regulatory standards and were not uniform. Tr. 961:23-962:25; 964:1-19.

147. With regard to lead, Dr. Krieger testified that none of the painters would be at a significant increased risk of latent disease because the latency period already had passed for any latent disease that could be caused by exposure to lead. Tr. 965:14-966:5; 513:4-11. Plaintiffs' experts likewise did not dispute that tes timony.

***26** 148. With regard to chromium, Dr. Krieger testified that none of the mechanics would be at a significant increased risk of asthma (the only latent disease identified by plaintiffs' experts) because the latency period already had passed. Tr. 966:6-17; 515:2-516:10. Plaintiffs' experts likewise did not dispute that testimony.

149. With regard to fluoride, Dr. Krieger testified that none of the yard and kiln workers would be at a significant increased risk of fluorosis (the only latent disease identified by plaintiffs' experts) because the latency period for that disease already had passed. Tr. 967:5-10; 517:7-518:4. Plaintiffs' experts likewise did not dispute that testimony.

150. Thus, Dr. Krieger's testimony demonstrated that plaintiffs would not be able to show on a group-wide basis for furnace workers, painters, mechanics or the yard and kiln workers that they are at a significant risk of latent disease.

151. As did all of the other experts, Dr. Herzstein testified that dose is the critical factor in determining whether, and to what extent, a person is at an increased risk of disease as a result of exposure. Dr. Herzstein explained that we are all exposed to things in our everyday lives that have some potential adverse health effects associated with them--like asbestos, silica and lead-- and that if dose is not taken into account, every person and every workplace would be needlessly monitored for a myriad of unlikely health effects. Tr. 1051:25-1053:9. Dr. Herzstein further testified there is no evidence that the Workers as a group received a significant dose of any substance at issue (*id.*) or are at a significant increased risk of latent disease due to any alleged exposure at the Plant. Tr. 1051:11-1053:9.

152. In light of all this evidence, the Court finds that dose and the extent of the disease risk cannot be proven on a class-wide basis, but instead, must be determined on a worker-by-worker basis.[FN39]

FN39. Mr. Tarr's model does not help plaintiffs to prove dose or the extent of the disease risk on a class-wide basis. Mr. Tarr conceded in his testimony that his model cannot predict the dose that any worker received while working at the Plant and that he is unaware of any model that would provide that information. Tr. 1163:11-24. In fact, as Mr. Tarr explained it, his model does not take into account the use of personal protective equipment or other individual characteristics that affect dose such as breathing rates: "The model predicts ambient air concentrations. It doesn't have anything to do with anything other than that." Tr. 1162:17-1163:2. Certainly, the model cannot predict disease risk for any worker or group of workers.

IV. THERE IS INSUFFICIENT JUSTIFICATION FOR ACROSS-THE-BOARD MEDICAL MONITORING FOR THE CLASS.

A. OSHA Would Not Recommend Medical Monitoring For Workers Last Exposed 20 Or More Years Ago.

153. Although dose, not exposure, determines the extent of the risk of latent disease and whether it is significant enough to warrant medical monitoring, Ms. Gross contended that, if a worker's exposure on one occasion exceeded the current OSHA PEL or action limit (which Ms. Gross indicated generally is one- half of the PEL) for any of the substances at issue, then medical monitoring is warranted today for all such workers. Tr. 280:6-24; 282:2-283:14; 366:14-25.

154. However, Ms. Gross conceded that, even if a current OSHA standard did mandate medical monitoring for all Workers where the sampling data showed any exceedance of a PEL or action level, no agency, including OSHA, would require medical monitoring for individuals whose last exposures exceeded OSHA's PEL or action level at least 20 or more years ago. Tr. 372:25-373:11; 367:1-9.

***27** 155. Dr. Rock concurred with Ms. Gross, testifying that OSHA's current PELs and action levels have no applicability to workplaces, such as the Plant, which ceased operating more than 20 years ago. Tr. 807:12-20; 808:16-809:4.

156. Dr. Herzstein also concurred with Ms. Gross, testifying OSHA's current PELs and action levels have no applicability as to whether or not to recommend medical monitoring for individuals who were last exposed at the Plant 20 or more years ago. Tr. 1033:2-16; 1036:10-15. Dr. Herzstein further testified that the focus of OSHA and its PELs or action levels is on safe exposure levels for a current workplace. For that reason, if exposure levels exceed the PEL or action levels, that means the workplace needs to be changed to better control exposures. Dr. Herzstein testified that a one-time exceedance of a PEL or action level, even in a current workplace, however, does not mean a worker is at a significant increased risk of latent disease, nor does it mandate medical monitoring. Tr. 1031:6-1033:16.

157. As Ms. Gross acknowledged, the basic premise underlying OSHA's current PEL for a particular substance is that a worker could be exposed to that substance at a level at or below it for 8 hours a day, 5 days a week, 50 weeks a year, for a working lifetime, without being at a significant increased risk of latent disease. Tr. 365:24-366:13. Thus, even considering current OSHA standards, OSHA would not mandate medical monitoring based on a single reading above the PEL or action level.

158. Moreover, there is no single OSHA standard that applies to all substances which mandates medical monitoring. Tr. 368:8-13; 809:5-18. Instead, the current OSHA standards vary from substance to substance in the extent to which they even address the subject of medical monitoring at all. *See, e.g.,* Dx. 13, 14, 15, 16. With regard to the substances at issue for all Workers, there is no OSHA standard mandating medical monitoring as a result of exposures to silica, phosphorous, or P2O5/H3PO4. Tr. 368:14-369:6; 370:1-7. With regard to noise, there was no OSHA standard mandating medical monitoring when the Plant was operational. Currently, medical monitoring for noise is mandated only for employees whose exposures may equal or exceed an eight-hour time-weighted average of 85 decibels. Tr. 809:5-18; Dx. 14 (29 C.F.R.1901.95(d)(1)).

159. With regard to the substances at issue for the sub-groups identified by plaintiffs' experts, OSHA currently mandates medical monitoring for asbestos for only those workers whose exposures exceed or will exceed the PEL. Dx. 16 (29 C.F.R.1910(d)(2)); Tr. 370:18-22. With regard to lead, OSHA currently mandates medical monitoring only for those workers whose exposures exceed the action level for 30 or more days in a year. [FN40] Dx. 13 (29 C.F.R.1910(j)(i)). With regard to chromium and fluoride, even today there is no OSHA provision mandating medical monitoring. Tr. 370:8-17; 822:12-18; 824:19- 825:14.

FN40. Plaintiffs' counsel asked Dr. Pepper to provide the court with "just one example of a toxin" for which OSHA mandates medical monitoring if a worker has been exposed to a certain level, and Dr. Pepper replied "the occupational lead standard," leaving the impression that a single exposure to lead above the OSHA PEL or action level mandated medical monitoring. Tr. 435:24-436:2. Dr. Pepper failed to explain to the Court that OSHA only mandates medical monitoring for those workers in the current workplace whose exposures exceed the action level for lead 30 or more days in a single calendar year. Dx. 13 (29 C.F.R.1910(j)(i)). Thus, even if one were to apply the current OSHA lead standard to the workers who worked at the Plant approximately 20 years ago, based on the sampling data, OSHA would not mandate medical monitoring for any or all of the Workers due to their alleged exposure to lead. Tr. 511:15-512:24; 824:13-18.

***28** 160. Simply put, the OSHA regulations themselves do not support Ms. Gross's conclusion that medical monitoring is warranted for all Workers where the sampling data shows any exceedance of a PEL or action level for any of the substances at issue.

161. Dr. Rock testified there are no workforce-wide pattern of sustained exceedances of the OSHA PEL or action levels which would mandate medical monitoring for all or any group of Workers. Tr. 825:15-21; *see also* Tr. 810:21- 814:14; 817:1-22; 818:23-819:13; 820:2-22; 824:13-18; 822:12-18; 824:25-825:14.

162. Dr. Herzstein also testified there is no pattern of exceedances of PELs or action levels for any substance at issue which places any worker or group of workers at a significant risk of latent disease that warrants medical monitoring. Tr. 1034:2-16.

163. In light of this evidence, the Court finds that plaintiffs cannot support the need for medical monitoring for all Workers whenever the sampling data shows an exceedance of a PEL or an action level.

B. Determining The Need For Medical Monitoring And Which Medical Tests To Prescribe Will Vary By Worker.

164. In his expert report, Dr. Pepper proposed an across-the-board medical monitoring plan for all Workers for silica-related latent diseases, phosphorous-related latent disease, P2O5/H3PO4, (no latent disease specified) and noise. Dr. Pepper also proposed an across-the-board medical monitoring plan for furnace workers for asbestos-related latent diseases, for mechanics for chromium-related latent disease, for painters for lead-related latent disease, and for kiln and yard workers for fluoride-related latent disease. Tr. 496:15-22; 508:11-19; 507:6-14; 505:10-14; 513:19-514:6; 1047:24-1048:8; 966:18-967:4. However, at the hearing, Dr. Pepper testified he had not prepared any medical monitoring plan for any of the workers. Tr. 447:15-448:2.

165. Indeed, at the hearing, the only substance for which Dr. Pepper even proposed medical monitoring at all was silica, stating that silica serves as the "representative toxin." Tr. 440:21-441:3. However, Dr. Pepper's specific testimony on cross-examination about other substances at issue in this case revealed either that exposure to those substances do not result in latent disease or that, since any exposure at the Plant occurred at least 20 years ago, the latency period has passed, or there was no appropriate monitoring test, thus, negating any need for medical monitoring. Tr. 508:11-509:21; 507:6- 14; 508:4-10; 506:14-21; 513:4-11; 515:2-516:10; 517:7-518:4; *see also* 1047:24- 1048:23.

166. At the time Dr. Pepper came to his opinion that all Workers needed medical monitoring and proposed his across-the-board medical monitoring plan, he had not: (1) attempted to determine the frequency and duration of exposure for any worker for any substance about which he had testified; (2) attempted to assess cumulative exposures or dose for any worker for any such substance; (3) attempted to assess the extent of disease risk for any worker for any such substance; (4) reviewed any of the medical records of the proposed class representatives; or (5) reviewed the depositions of the proposed class representatives. Dr. Pepper also had not taken into account any individualized factors of the proposed class representatives, such as pre-existing disease, health status or desire for medical monitoring. Tr. 475:7-17; 481:7-12; 475:23- 476:1; 470:13-15; 476:2-24; 476:25-478:16. Yet, the evidence demonstrates that these all are important in considering medical monitoring.

***29** 167. Dr. Herzstein offered testimony with regard to medical monitoring, how it has been perceived in the medical profession, and how those perceptions have changed over the years. As she explained, in the 1920s, the American Medical Association ("AMA") issued a statement that an annual physical examination and standard testing was a good idea across-the-board for everyone. For many years the medical profession followed this practice. In the 1970s and 1980s, based on scientific evidence, it was determined that an annual physical examination and standard testing was not clinically valuable for the individual. [FN41] Therefore, in 1983, the AMA issued another statement withdrawing its support for an across-the-board annual physical examination and standard testing for everyone. The standard of care now with regard to medical monitoring instead is to perform periodic physical examinations targeted to specific medical conditions that depend upon an individual's risk factors. [FN42] Tr. 1020:4-1021:12.

FN41. Dr. Herzstein testified that to the extent they exist, many of the OSHA standards for medical monitoring were developed when medical monitoring was seen as beneficial for many conditions. Now it is recognized that some of the OSHA standards for medical monitoring, such as the asbestos standard, do not benefit the individual and do not improve individual clinical outcome. Tr. 1035:10-1036:9.

FN42. Dr. Krieger testified that the corporate-wide medical monitoring plan Stauffer implemented at the Plant in the 1970s, which included all workers, was typical for medical monitoring plans of that time period; however, over time the approach to medical monitoring has changed and now medical monitoring plans are much more individualized. Tr. 984:15- 986:6. Dr. Herzstein testified that the medical monitoring plan Stauffer implemented at the Plant in the 1970s was common practice in that period but would not be seen as beneficial for the Workers today. Tr.

1083:2-15.

168. The U.S. Preventive Task Force is an organization of experts, very highly regarded by the medical profession, which has met regularly since the 1980s to develop consensus, evidence-based guidelines for medical monitoring of individuals in all different risk groups, including occupationally-exposed populations. Tr. 1027:16-1028:3; 1030:4-25. These guidelines are published in the "Guide to Preventive Services" ("Guide"), the most recent edition of which was published in 1996. Dx. 137.

169. It is undisputed by plaintiffs' and Stauffer's experts on medical monitoring, that the Guide: (1) is considered reliable and authoritative in its recommendations for medical monitoring and the screening tests it recommends as effective for medical monitoring [FN43] (Tr. 491:15-19; 1028:4-9); and (2) recognizes that the frequency and content of periodic physical examinations should reflect the unique health risks of individuals and that in selecting appropriate screening tests individual risk factors must be taken into account. Tr. 491:20-492:7; 1029:4-1030:3.

FN43. The Guide makes clear that its recommendations for medical monitoring and the screening tests it recommends are for asymptomatic individuals. Dx. 137 at xxv, xl.

170. The Guide does not recommend across-the-board medical monitoring but instead emphasizes the need for physicians to consider individual risk factors and preferences at all times. [FN44] The Guide states in a very straight forward manner that it is impossible to recommend a uniform preventative physical examination for individuals in groups or as a whole. Tr. 1029:14- 1030:3.

FN44. Dr. Herzstein testified that even when the Guide recommends screening tests for groups--such as PAP smears every three years for all women who are or have been sexually active and who have a cervix--the Guide emphasizes that the decision as to whether to actually prescribe the test is individualized and is dependent upon personal factors and personal risks. Tr. 1066:13-1067:17.

171. As Dr. Herzstein testified, the focus of medical monitoring should be on the individual for several reasons: (1) when it pertains to exposure-related medical monitoring, individuals have different exposures and different doses and individuals will respond to those doses differently depending on their susceptibility; (2) each individual patient and health effect has to be evaluated differently; (3) each screening test and whether that test is safe is dependent upon the individual; and (4) each individual will differently weigh the benefits and harms of undergoing both potential screening tests and potential treatments. Tr. 1037:1-1038:25.

***30** 172. The Guide recognizes that age is an important factor in deciding whether to recommend medical monitoring and what screening tests to recommend. For people in the older population, screening tests have more side effects. In addition, people in the older population are more likely to have pre-existing serious diseases already, and for them the burden of additional testing is far greater than for younger, healthier populations. Many of the workers from the Plant would be in the older population range. Tr. 1048:24-1050:4.

173. Dr. Herzstein also testified that it is not appropriate for an occupational health physician to send a group of workers for the same physical examination and screening tests without considering individual factors and individualized exposures and then developing an individualized medical monitoring program, as the Guide recommends. Tr. 1039:1-10.

174. Dr. Herzstein testified that even if a group of workers is at a significant increased risk of latent disease, that does not mean medical monitoring is appropriate. Whether monitoring is appropriate still requires evaluation of the sensitivity and specificity of the proposed screening test, the rate of false positives and false negatives of the screening test, the prevalence of the disease for which the person is being screened, whether treatment can affect the clinical course of the disease for which the person is being screened, and individual factors. Tr. 1039:11-1042:4. Dr. Pepper's proposed across-the-board medical monitoring program does not take these factors into account. Tr. 1056:23-1057:5.

175. Prior to coming to her opinions in this case, Dr. Herzstein considered frequency and durations of exposures, assessed cumulative exposures or doses, assessed the extent of the disease risk, reviewed the medical records and depositions of the proposed class

representatives, and took into account individual factors. Dr. Herzstein testified that across-the-board medical monitoring for the Workers is not appropriate because of important differences in worker tenure, exposures, doses, the Worker's ages, susceptibility to disease, existing diseases and personal preferences for undergoing tests and accepting treatment. Tr. 1051:11-1056:22.

C. Early Detection Will Not Result In Improved Clinical Outcome For The Class.

176. There is a consensus in the published peer-reviewed scientific and medical literature and among national and international public health organizations concerning the following criteria that must be met to find medical monitoring appropriate: (1) there must have been a significant exposure which created a significant risk of a specific end-organ health effect; (2) generally-accepted and effective tests must exist that make it possible to detect the health effect early in asymptomatic persons; and (3) the proposed medical monitoring plan must improve the clinical outcome for the individual. Tr. 1024:24-1026:24; Dx. 260, 261, 262, 115, 116. If early detection in the asymptomatic stage would not result in improved clinical outcome, then the medical community would *not* support monitoring. Tr. 1044:24-1047:23; 1070:8-24.

***31** 177. Dr. Pepper admitted that the Guide states that a fundamental requirement for medical monitoring is that early detection leads to improved clinical outcome for the individual and that this means there has to be treatment available to prevent or delay the progression of the disease for which a person is being monitored. Tr. 495:10-19. Dr. Pepper further agreed that no peer-reviewed literature, health agency or governmental body has articulated the position that knowledge or informational benefits alone without the ability to alter clinical outcome or provide well-accepted treatment, provide sufficient reason to warrant medical monitoring. Tr. 495:20-496:14.

178. Dr. Pepper admitted that he knows of no well-accepted treatment to alter the clinical outcome of silicosis if detected at an early stage. Tr. 496:23-497:2; 497:8-20. In fact, Dr. Herzstein testified there is a consensus in the scientific and medical communities that it is not worthwhile to screen individuals or groups of individuals for silica exposure who were last exposed 20 or more years ago. Tr. 1036:16-25.

179. Similarly, Dr. Pepper admitted there is no well-accepted treatment to alter the clinical outcome of lung cancer if detected at an early stage. Tr. 502:23-503:3. For that reason, the Guide recommends against screening for lung cancer, including recommending against the use of the chest x-rays and spirometry that Dr. Pepper proposed be given to all Workers. Dx. 137 at 135; Tr. 499:6-8; 501:3-13. In addition, Dr. Pepper admitted, at this time, science does not recognize or generally accept rapid CT scans as a screening test for lung cancer. Tr. 445:20-446:21; 447:6-14.

180. Dr. Pepper also admitted that the Guide does not recommend screening tests for hearing loss. Tr. 506:22-507:5.

181. Dr. Herzstein testified that, for all the substance-related latent diseases identified by Dr. Pepper, there is no treatment which, if given earlier, would improve clinical outcome. Tr. 1047:24-1048:23.

182. Dr. Herzstein testified that for medical monitoring to be beneficial to the individual: (1) it has to be for a condition that will have a significant impact on quality of life or longevity; (2) the condition must have an asymptomatic period during which detection and treatment can significantly reduce morbidity or mortality; (3) effective tests and treatments must be available that are acceptable to the individual; and (4) treatment in the asymptomatic stage must result in improved clinical outcome compared with treatment after symptoms appear. Tr. 1046:7-1047:23; *see also* Dx. 260, 261, 262.

183. Even if one were to assume that exposure, dose and increased risk of latent disease were uniform and significant for all Workers, medical monitoring for the entire group would still not be appropriate because: (1) for all of the substance-related latent diseases identified by Dr. Pepper, there is no treatment which, if given in the asymptomatic period, would significantly reduce morbidity or mortality for all members of the proposed class; (2) the tests suggested by Dr. Pepper in his expert report, but not at the hearing, (including, but not limited to, chest x-rays, spirometry, CT scans and physical examinations) are not effective and may lead to a cascade of additional, more invasive tests for certain workers in the proposed class; and (3) medical monitoring will not, for all members of the proposed class, improve the clinical outcome of the latent diseases for which Dr. Pepper proposed such monitoring. Tr. 1047:24-1048:23; 1053:10-1054:21.

***32** 184. Based on the scientific and medical

literature and, the testimony and documentary evidence, the Court concludes that plaintiffs cannot show, on any class-wide basis, that medical monitoring is either warranted or beneficial for all or any group of the Workers. Tr. 1051:11-1054:21; 1057:25-1058:9.

V. STAUFFER'S DEFENSES AND PLAINTIFFS' BURDEN TO PROVE INTENT ARE INDIVIDUALIZED INQUIRIES WHICH CANNOT BE ASSESSED ON A CLASS-WIDE BASIS.

A. Stauffer's Statute Of Limitations And Consent Defenses Hinge On Individual Knowledge.

185. The evidence in this case reveals that there are substantial issues raised by Stauffer's statute of limitations and consent defenses that will turn on the facts applicable to each individual worker. Thus, the evidence shows that at least a number of the Workers, as exhibited by four of the five workers who testified at the hearing, were concerned--including at the time they worked at the Plant or years before this suit was filed--that working at the Plant had adversely impacted their health. For those with concerns while still working at the Plant, they nonetheless chose to continue working there, generally to receive higher pay than elsewhere.

186. Mr. Kingsley's situation is illustrative. On cross-examination, Mr. Kingsley testified that, ever since he left the Plant in the 1950's, he has been concerned about contracting a disease as a result of having worked there. When asked whether, in the 1950s, he had wondered what effect the dust and gas might have on his health, he responded: "It was thought about, yes, sir.... [U]ndoubtedly it was." Tr. 137:21-138:3. In fact, Mr. Kingsley, as well as Messrs. Giddens and Ivan Hoyte, admitted understanding that Stauffer had furnished the respirators to protect them from gases (such as P2O5/H3 PO4) and dust when warranted. Tr. 124:15-18; 125:16-19; 173:11-174:12; 182:15-19; 559:7-13; 600:20-24; 619:21-620:8; 622:9-11; 623:11-14.

187. Moreover, Mr. Kingsley testified that while working at the Plant, his health concerns included that he might get cancer as a result of exposures while working there. Thus, on re-direct examination, he admitted that, while working at the Plant, he thought about the dangers of exposures to carcinogens or cancer causing substances at the Plant:

> You know, it's *something that probably ... was brought up* and everything, and *we thought about it,* but it's not going to happen to me. You know, you look at a car going down the road going--and it has a wreck and you say that's not going to happen to me.
>
> Well, that's the way it is there *when you worked there you say, yeah, you might get some lung trouble or something,* but it will not happen to me. Especially when you are young, you think that, you know.

Tr. 154:8-155:4 (emphasis added).

188. Recognizing these risks as he did, Mr. Kingsley admitted he nonetheless stayed at the Plant because he was paid five times more than he had been paid as an electrician's helper. Tr. 122:11-23; 139:18-24.

***33** 189. Mr. Kingsley's admitted concerns about the impact of working at the Plant were influenced by his actual health condition. Mr. Kingsley has never smoked (Tr. 152:1-3), [FN45] but toward the end of his tenure at the Plant, he experienced fits of coughing. Tr. 138:11-17. The coughing spells got worse the longer he stayed there. Tr. 138:23-25. In fact, as Mr. Kingsley described it, there came a point where he "couldn't stop coughing;" "[t]here was always coughing." Tr. 138:23-139:9. These lung problems and chest congestion caused Mr. Kingsley to stop working at the Plant, but even then, he continued to experience coughing and shortness of breath. Tr. 138:11-22; 139:25-140:19. Thus, Mr. Kingsley admitted that he not only "believe[s]" but "know[s]" the gas and dust at the Plant caused his breathing problems, *and he has been of that view ever since he left Stauffer.* Tr. 144:14-24. Moreover, Mr. Kingsley understood his lung specialist, Dr. Lalit Gupta, to have advised him in the mid-1980's, more than ten years prior to the filing of this case, that his lung and breathing problems were associated with his exposure to various substances at the Plant. Tr. 149:7-150:13.

> FN45. As a non-smoker, Mr. Kingsley was in a distinct minority among the Workers. As he described it, apart from one other individual, he knew of no other non-smokers who worked at the Plant during his tenure. Tr. 152:4-11.

190. Mr. Kingsley's concerns about the possibility of getting cancer from his exposures from working at the Plant is confirmed in Dr. Gupta's records. In mid-1987, Mr. Kingsley went to see Dr. Gupta because he was concerned about his breathing problems. Tr. 145:24-147:3; 149:24-150:7; Dx. 221. Dr. Gupta subsequently reported to Mr. Kingsley's regular physician that Mr. Kingsley "has severe anxiety

regarding asbestos exposure and lung carcinoma;" he "is very concerned about the long cancer and dying from lung disease." Dx. 221. [FN46]

FN46. Dr. Gupta's testing confirmed that Mr. Kingsley did not "have any cancers," and, in the 44 years since he left the Plant, he never has been diagnosed with lung cancer. Tr. 142:21-143:1; 145:24-146:23. In fact, although Mr. Kingsley has been advised by a physician to get a chest x-ray on a yearly basis, he does not do so because he fears the x-rays themselves might cause or accelerate his lung problems. Tr. 151:14-25.

191. In addition to his own health problems that he attributed to working at the Plant, Mr. Kingsley also acknowledged that he has long believed that other workers had diseases, including lung cancer, that resulted from working there. For example, more than 20 years ago, one former worker, Dillon Sigmond, indicated to Mr. Kingsley that he believed his lung cancer was caused by working at the Plant, and Mr. Kingsley also believed that was the cause. Tr. 140:25-141:20. Similarly, more than 15 years ago, another former worker, Eldridge Hendry, told Mr. Kingsley that he thought working at the Plant had caused him to be ill, and Mr. Kingsley again thought that was the cause. [FN47] Tr. 141:21-142:20.

FN47. This detailed testimony from Mr. Kingsley stands in marked contrast to his simple assertion on re-direct examination that he did not know, and had "never thought about," any danger of contracting cancer as a result of working at the Plant. Tr. 153:21-154:2.

192. Although, Mr. Giddens testified in his direct testimony that, at the time he worked at the Plant, he did not know--and had no concerns--that the dust and gas were affecting his health, this testimony is inconsistent with other testimony he gave at the hearing and in his deposition, as well as documentary evidence. Tr. 185:19-186:2.

193. For example, Mr. Giddens specifically indicated that the gas in the kiln would cause his throat and lungs to be irritated. Tr. 166:12-20. In addition, he explained that Stauffer had advised the workers that asbestos exposure could cause damage to health, and required additional precautions be taken to the extent the substance was used for any purpose after it was no longer used in packing the electrodes at the furnace. Tr. 180:13-181:1. Further, at the time Mr. Giddens worked at the Plant, a fellow worker died of a breathing problem and Mr. Giddens admitted believing at the time that the death resulted from exposure to phosphorus at the Plant. Tr. 190:4-18. [FN48] Most tellingly, in his deposition taken just four days before the hearing, Mr. Giddens testified that: (1) at the time he was working at the Plant, while he did not know precisely what the dust and gas were doing to his health, he "knew it wasn't good;" (2) he had told defense counsel shortly before the deposition that he was particularly concerned when working there about the effect the coke and silica dust were having on his health; and (3) after developing bronchitis while working at the Plant (a condition he still has), he asked his doctor, in 1970, whether his breathing problem was caused by his working there. He understood then from the doctor's response that the doctor believed it was affecting his health and he should not be working there. Tr. 186:3-18;-187:6- 189:14; 194:24-195:5.

FN48. Mr. Giddens testified that shortly after the Plant closed, another former worker died of lung cancer and Mr. Giddens believed at the time that death also was caused by the having worked at the Plant. Tr. 189:15-190:3.

***34** 194. On cross-examination, Mr. Giddens admitted that Stauffer paid more money than other employers who had available jobs and that he continued working there until he retired when the Plant closed. Tr. 190:19-191:3.

195. Mr. Malcolm also testified regarding health concerns. He stated that, when he worked at the Plant, "a lot of people" offered their opinion that he "should not be working there" because of "[h]ow dangerous it was." Mr. Malcolm responded to them: "[T]hat's a chance I'm taking because a job is a job, so that was the chance I was taking." Tr. 553:5-15. Although Mr. Malcolm claimed, at the hearing, that he did not remember that the chance he elected to take included getting cancer (Tr. 564:2-12), that claim was inconsistent with his deposition testimony:

Q. Were you worried about getting cancer?
A. They say it can give you cancer. It can give you a lot of things.
Q. Were you worried about it?
A. I was scared. I wanted to quit sometimes

because of the conditions of what people talked about.
Q. So you were worried about that?
A. Yes, I was worried.
Tr. 564:13-565:11. [FN49]

FN49. Mr. Malcolm also testified that he understood a properly fitted respirator was necessary to minimize the risk of silicosis, Tr. 553:16-20, and that Plant management had explained to him that a proper respirator fit required a clean shaven face. Tr. 549:19-24; 560:23-561:14. Yet, on three occasions, Mr. Malcolm was disciplined for violating the Plant's respirator requirements by not shaving. Dx. 208, 209, 210.

196. By 1991, Mr. Malcolm's concerns about the health-impact of working at the Plant were then being reflected in his attribution of the deaths of some other workers to their having worked at the Plant. Tr. 567:1-15.

197. Norman Hoyte also admitted, on cross-examination that, even before the early 1990's (well before this lawsuit was filed) when he saw newspaper articles about the cleanup at the Plant, he had concerns about getting cancer from having worked there:
Q. Did you ever hear anything?
A. The chemical plant?
Q. The chemical plant and the government report about it?
A. No. The only thing I know before this even come up I hear the chemical very dangerous. You can get cancer from it before the newspaper, before, you know what I'm saying? The chemical can really mess you up.
Q. Which chemical was that?
A. Well, from the chemical we inhaled, the chemical can mess you up. Whatever it is, I don't know. Them say you can get cancer. You could get this from it. You could get that from it. You know what I mean? Everybody talk about it.
Q. That was before you got the papers in the mail?
A. Everything. Yes.
Q. That was before the stuff on the television?
A. Yes. People quit and all them thing you could get cancer from it and you could get this from that. That was before all that happened.
Tr. 646:21-648:14.

198. All of this testimony serves to underscore the need for an individual analysis of Stauffer's statute of limitations and consent defenses as it applies to each worker. [FN50]

FN50. In setting forth the testimony and evidence regarding the various workers' beliefs about the health risks posed by working at the Plant, the Court does not express any opinion as to the accuracy of those beliefs, including whether working at the Plant in fact caused any individual's health problems. For example, among the testifying workers, the Court also heard testimony that, prior to joining Stauffer, Mr. Giddens worked in the logging industry for more than ten years cutting timber and turning the logs into lumber. In that work, as set forth in his 1979 health history questionnaire, Mr. Giddens was exposed to dust, noise and gas fumes. Tr. 192:2-194:9; Dx. 417. (Although Mr. Giddens admitted that this health questionnaire contained his handwriting on the first page, he denied that the language regarding his exposure to dust, noise and gas is his own. He had no explanation as to why someone else would have written such other language in this document. Tr. 193:7-194:6.) In addition, several years before he joined Stauffer, Mr. Giddens had a serious battle with pneumonia, and subsequent lung x-rays over the years have revealed a resultant pleural thickening. Tr. 194:10-19. Similarly, at the hearing, the Court heard testimony from Mr. Kingsley about the pervasive extent of smoking among the workers (*see supra,* at ¶ 189 n.46), and Messrs. Ivan Hoyte and Stanley Malcolm each testified as to their history as smokers. Tr. 570:2-11; 628:5-629:14.

B. Proof Of The Requisite Intent To Harm Cannot Be Shown Class-Wide.

199. The evidence has not shown how Stauffer's alleged intent to cause serious injury or death to its workers could be shown across all Workers over the approximate 35-year life of the Plant.

***35** 200. None of the workers who testified at the hearing testified that Stauffer intended to harm them specifically in any way. In fact, Mr. Giddens, the only worker who testified at the hearing whose tenure at the Plant spanned three decades testified that the general attitude at Stauffer--among both management

and non-management employees--was that they all were a family who cared about each other. Tr. 182:3-9.

201. Similarly, none of plaintiffs' experts who testified at the hearing testified that Stauffer intended to harm any specific worker. Tr. 364:16-365:4. While Ms. Gross testified on direct examination that she had no doubt Stauffer knew it was exposing the workers to hazardous conditions (Tr. 255:19-22), on cross-examination she conceded that she "really [didn't] know" whether Stauffer had intended to harm anyone at the Plant, as opposed to perhaps acting negligently. Tr. 364:16-365:4. In addition, on cross-examination, Ms. Gross acknowledged that, in deposition, she had testified both that Stauffer's knowledge of the substances and the risks of disease any of them might pose would have been different in the 1940s than the 1980s, and she did not believe that Stauffer intended to harm anyone at the Plant. Tr. 364:5-365:4.

202. Ms. Gross also cited to an incident which, she said, showed Stauffer's generally poor attitude towards its Workers. That incident, however, involved only two workers on the tap floor on a single day in 1975, who were exposed to a heavy concentration of fumes from a hot paste and who, when they asked for the situation to be alleviated, were told that nothing could be done and that, if they could not continue their jobs while wearing their respirators, they could go home. Tr. 262:6-263:20; Px. 131. As soon as the incident was brought to Stauffer's attention, Stauffer management called the manufacturer of the paste (which Stauffer had been using for years without incident) and was advised that, if there were prolonged exposure, the paste could cause eye irritation--which is not at issue in this case. Stauffer management thus dealt with the incident forthrightly and took corrective measures to ensure it would not recur. Tr. 336:3-343:3; Dx. 70-73.

203. Considering these facts, this limited incident on which Ms. Gross relied cannot reasonably be viewed as reflecting any intent on Stauffer's part intentionally to cause serious injury or death to all its Workers, especially across-the-board over the 35-year life of the Plant. Rather, the incident is consistent with Ms. Gross's deposition testimony that Stauffer did not intend to harm anyone at the Plant.

204. Ms. Gross also testified on direct examination that Stauffer failed to have a mandatory respiratory program prior to 1978 when the Plant put a formal mandatory respiratory program into effect. However, Ms. Gross was not aware of any state or federal regulation requiring a mandatory respiratory program prior to the 1970s when OSHA was formed, and Stauffer was never cited by OSHA or any agency for failing to have a proper or required mandatory respiratory program. Tr. 355:24-356:17.

***36** 205. Dr. Rock opined that prior to OSHA's creation and development of respiratory program regulations in the 1970s, formal mandatory respirator protection programs were not common in industry at large and that Stauffer was in the top third of industry at the time in implementation of its respiratory protection program. Tr. 806:6-21; *see also, supra,* at ¶ ¶ 87, 95. Nothing in Ms. Gross' testimony contradicted these opinions.

206. More generally, Dr. Rock testified that the numerous equipment changes at the Plant over its 35-year life reflected accepted hygiene practice and available technology and emission standards as they evolved over time. Tr. 789:21-790:7; 791:3-7; 825:22-826:9; 777:10-16. This testimony, too, was unrebutted.

207. The Court finds that the evidence presented at the hearing suggests that Stauffer did not act with the intent to harm the Workers. More importantly, that evidence demonstrates that any such alleged intent by Stauffer could not be shown through class-wide proof.

VI. THE NAMED PLAINTIFFS ARE NOT ADEQUATE AS CLASS REPRESENTATIVES.

208. Although the named plaintiffs testified conclusorily that they understand the nature of this case and the relief sought (*see, e.g.,* Tr. 640:22-641:13), their specific testimony indicates otherwise.

209. Norman Hoyte testified that the lawsuit is intended to recover money to pay medical bills of all the Workers or, as he described it in deposition, to obtain "money for people who are already sick to help them pay their medical bills." Tr. 644:22-645:25. In addition, he testified, the lawsuit is intended to "get a fund of money so that you could leave something for your family and your children or grandchildren." Tr. 644:16-21.

210. Mr. Malcolm also perceives the case as one intended to help pay the medical bills of those workers who become ill. At the hearing, he testified that the lawsuit was about "medical attendance for the future." Tr. 552:25- 553:4. While, on its face, that description is unclear, Mr. Malcolm's deposition testimony clarified it: the lawsuit was seeking

"medical disability for if ever I'm sick or something like that;" and that "[a]nything I should get, should help me for medical down the line." Tr. 568:8-569:7.

211. Ivan Hoyte also indicated that the purpose of the lawsuit was to seek to recover "a fund to pay the doctor bills of workers who may get sick." Tr. 623:15-19.

212. Thus, the evidence establishes and this Court finds that the three proposed class representatives do not adequately understand the nature of this case and the relief sought.

213. As to Ivan Hoyte, the evidence suggests that, if he understood that the relief actually sought in this case were medical monitoring, he would have no real interest in vigorously pursuing it because he has a history of refusing, or failing to comply with, medical treatment when he has been found to have actual health problems. For example, he has prostate cancer, but he refuses the radiation treatment medically recommended for it. Tr. 623:20-624:4; Dx. 181. Instead, he takes what he describes as a Jamaican tea home remedy. Tr. 624:5- 13. Similarly, in 2000, he was treated at Bayfront Medical Center for an intestinal obstruction, but refused to have the recommended surgery. Tr. 625:16-22. He has been prescribed both blood pressure and diabetes medications, but in each instance, does not take them daily as prescribed; in fact, in many weeks, Mr. Hoyte goes two or three days without taking his diabetes medication. Tr. 627:1-628:4.

***37** 214. As illustrated throughout these findings of fact, each of the proposed class representatives had serious difficulties in providing consistent testimony on significant points in the litigation. The Court recognizes that there may be a number of reasons for these inconsistencies, including possibly language barriers, lapses in memory, or a lack of veracity, but regardless of the reason, such inconsistencies do bear on the factual reliability of their testimony.

215. Ivan Hoyte appeared to have particular difficulty testifying consistently as to issues central to the litigation. For example, he has given several different answers as to when he worked at the Plant: testifying on direct examination that he believed he was employed there from "from '68 to--I think to '71," (Tr. 593:4-9); responding to interrogatories that he was there from 1965 to 1970 (Dx.172); and in deposition admitting that he was employed at the Plant from March, 1970 to December, 1973 (Tr. 605:20-606:24), which is also the period indicated in the second amended complaint and his employment records at Stauffer. Second Am. Compl. at ¶ 6; Dx. 171.

216. His testimony also varied regarding his smoking history. At the hearing, he claimed to have stopped smoking when he was "thirty-something," (Tr. 628:11- 15); but in deposition he testified both that he smoked until he was 40 to 45 and that he smoked until about 25 years ago (which, at the time of the deposition, would have made him about 50) Tr. 628:5-629:14.

217. Mr. Hoyte exhibited difficulty with language and memory at the hearing. He admitted that he understood only "most" of the questions he was being asked; he did not recall some of his deposition answers or, at least, stated that they "don't sound right to me;" and he did not recall signing his own interrogatories. Tr. 617:9-619:1; 629:15-630:8; 631:14-19.

CONCLUSIONS OF LAW

I. PLAINTIFFS' CAUSE OF ACTION

218. Plaintiffs have sued for medical monitoring on behalf of themselves and the putative class they seek to represent. The medical monitoring cause of action in Florida is governed by the Third District Court of Appeal's decision in Petito v. A.H. Robins, 750 So.2d 103 (Fla. 3d DCA 1999). Under *Petito,* plaintiffs must prove the following seven elements at trial:

(1) exposure greater than normal background levels;
(2) to a proven hazardous substance;
(3) caused by the defendant's negligence;
(4) as a proximate result of the exposure, each plaintiff has a significantly increased risk of contracting a serious latent disease;
(5) a monitoring procedure exists that makes the early detection of the disease possible;
(6) the prescribed monitoring regime is different from that normally recommended in the absence of the exposure; and
(7) the prescribed monitoring regime is reasonably necessary according to contemporary scientific principles.

Id. at 106-107.

219. In addition, because this case arises in the employer-employee context, in order to overcome Florida's workers' compensation immunity, plaintiffs also must prove at trial that Stauffer engaged in intentional conduct--designed or substantially certain to result in injury or death to the Workers. Turner v. PCR, Inc., 754 So.2d 683, 686-87 (Fla.2000). In this case the intentional tort on which plaintiffs solely

rely is battery. *See* Plaintiffs' Response to Stauffer's Second Set of Interrogatories at ¶ 6.

***38** 220. Plaintiffs seek certification of a class comprised of "all living non-management persons who worked at the Tarpon Springs plant (including Victor Chemical Works non-management employees) on Anclote Road, Tarpon Springs, Florida from 1947-1982, who have not previously filed suit against the defendants for personal injuries resulting from toxic exposures at the Tarpon Springs plant." Second Am. Compl. ¶ 40. [FN51]

FN51. This is the second separate putative class action lawsuit filed based on claims of alleged exposures to substances originating at the Plant. In an earlier case filed in federal court, a group of persons who lived or worked near the Plant attempted to certify property damage, personal injury and medical monitoring classes. U.S. District Judge Susan Bucklew declined to certify any of these classes. *Mills v. Stauffer Chemical Co.*, Case No. 97-1197-CIV-T-24A (M.D.Fla. May 12, 1999).

II. THE CLASS ACTION FRAMEWORK

221. Class certification is governed by Florida Rule of Civil Procedure 1.220. To maintain a class action, plaintiffs must satisfy the prerequisites for all class actions set forth in subsection (a):

> (a) ... (1) the members of the class are so numerous that separate joinder of each member is impracticable, (2) the claim or defense of the representative party raises questions of law or fact common to the questions of law or fact raised by the claim or defense of each member of the class, (3) the claim or defense of the representative party is typical of the claim or defense of each member of the class, and (4) the representative party can fairly and adequately protect and represent the interests of each member of the class.

Fla. R. Civ. P. 1.220(a). In addition, plaintiffs must satisfy the requirements of one of the subsections of Rule 1.220(b). In this case, plaintiffs seek certification only pursuant to subsection (b)(2), which requires that:

> the party opposing the class has acted or refused to act on grounds generally applicable to all the members of the class, thereby making *final injunctive relief or declaratory relief concerning the class as a whole appropriate.*

Fla. R. Civ. P. 1.220(b)(2) (emphasis added).

222. In determining whether or not to certify a class pursuant to Rule 1.220, the Court is guided by several principles:

(a) First, the proponent of class certification bears the burden of pleading and proving each applicable element of the class action rule. *Courtesy Auto Group, Inc. v. Garcia*, 778 So.2d 1000 (Fla. 5th DCA 2001); *Execu-Tech Bus. Sys., Inc. v. Appleton Papers, Inc.*, 743 So.2d 19, 21 (Fla. 4th DCA 1999) (per curiam).

(b) Second, class proponents are obligated to prove--at the hearing -not some unspecified later time--that a class action is appropriate. The Eleventh Circuit has observed: "Where the court finds, on the basis of substantial evidence as here, that there are serious problems now appearing, it should not certify the class merely on the assurance of counsel that some solution will be found." *Andrews v. AT & T*, 95 F.3d 1014, 1023 (11th Cir.1996); *see also Windham v. American Brands, Inc.*, 565 F.2d 59, 70 (4th Cir.1977); *In re Hotel Tel. Charges*, 500 F.2d 86, 90 (9th Cir.1974). [FN52]

FN52. The Court looks to federal class action law where there is no Florida case on point. Florida Rule of Civil Procedure 1.220 is based on Federal Rule of Civil Procedure 23, and therefore, "federal cases are persuasive authority for interpretation of Rule 1.220." *Toledo v. Hillsborough County Hosp. Auth.*, 747 So.2d 958, 960 n.1 (Fla. 2d DCA 1999) (citing *Concerned Class Members v. Sailfish Point, Inc.*, 704 So.2d 200, 201 (Fla. 4th DCA 1998).

(c) Third, a case does not become a class action simply because the complaint bears the legend "class representation." *Policastro v. Stelk*, 780 So.2d 989, 991 (Fla. 5th DCA 2001). Nor can the Court simply accept the allegations of the complaint as a basis for certification. *See Barton-Malow Co. v. Bauer*, 627 So.2d 1233, 1235 (Fla. 2d DCA 1993) (court normally should hold an evidentiary hearing to determine whether the facts actually support the class action allegations). Rather, the Court must look beyond the pleadings to evaluate whether the case properly may be tried on a class-wide basis and, if so, how. *See Humana, Inc. v. Castillo*, 728 So.2d 261, 266 (Fla. 2d DCA), *rev. dismissed*, 741 So.2d 1134 (Fla.1999). Indeed, the Court must undertake a "rigorous analysis" to determine whether plaintiffs

have met their burden of pleading and proving the required elements of Rule 1.220. *Baptist Hosp. Of Miami, Inc. v. Demario*, 661 So.2d 319, 321 (Fla. 3d DCA 1995) (quoting *General Tel. Co. of Southwest v. Falcon*, 457 U.S. 147, 160 (1982)). The Court is required to make findings and conclusions in determining the class certification question. *Brawn v. Campbell*, 781 So.2d 480 (Fla. 5th DCA 2001).

***39** (d) Fourth, in conducting its rigorous analysis, the focus of the Court's inquiry must be on how a class action trial actually would proceed and whether each plaintiff could prove his/her case through generalized class-wide proof. *Bouchard Transp. Co. v. Updegraff*, 2002 WL 236515 (Fla. 2d DCA Feb. 20, 2002); *Humana*, 728 So.2d at 266; (same); *Execu-Tech Bus. Sys.*, 743 So.2d at 21-22 (certification hearing must focus on whether plaintiffs have "developed or could develop a methodology to show *through generalized class-wide proof* that they have satisfied the substantive elements of their claims for each putative class member") (emphasis added).

(e) Fifth, although the class certification hearing is not the time to determine whether plaintiffs will prevail on the merits, *Eisen v. Carlisle & Jacquelin*, 417 U.S. 156, 178 (1974), the *Eisen* principle should not be "talismanically invoked to artificially limit a trial court's examination of the factors necessary to a reasoned determination of whether a plaintiff has met her burden of establishing each of the Rule 23 class action requirements." *Love v. Turlington*, 733 F.2d 1562, 1564 (11th Cir.1984). The United States Supreme Court declared after *Eisen:* " '[e]valuation of many of the questions entering into determination of class action questions is intimately involved with the merits of the claims." ' *Coopers & Lybrand v. Livesay*, 437 U.S. 463, 469 & n.12 (1978); *see also Szabo v. Bridgeport Machines, Inc.*, 249 F.3d 672, 675 (7th Cir.2001) (It makes no difference whether that same evidence might ultimately bear on the merits determination.); *Rutstein v. Avis Rent-A-Car Systems, Inc.*, 211 F.3d 1228, 1234 (11th Cir.2000) ("It is inescapable that in some cases there will be overlap between the demands of Rule 23(a) and (b) and the question of whether plaintiff can succeed on the merits;" *citing Huff v. N.D. Cass. Co.*, 485 F.2d 710, 714 (5th Cir.1973)).

223. As noted, the Court held a four-day evidentiary hearing addressed to these issues. The question at this stage, therefore, is whether plaintiffs have proven that the elements of Rule 1.220(a) and (b)(2) are satisfied, making this case suitable for class action treatment.

III. NUMEROSITY HAS NOT BEEN ESTABLISHED BECAUSE THE CLASS IS OVERBROAD AND IS NOT ASCERTAINABLE.

224. Rule 1.220(a)(1) requires that the class be so large that joinder of all members would be "impracticable." As part of the Rule 1.220(a)(1) numerosity requirement, courts evaluate whether a class is "adequately defined and clearly ascertainable," *see DeBremaecker v. Short*, 433 F.2d 733 (5th Cir.1970); *Rink v. Cheminova, Inc.*, 203 F.R.D. 648 (M.D.Fla.2001); *Mills v. Stauffer Chemical Co.*, Case No. 97-1197-CIV-T-24A (M.D.Fla. May 12, 1999) (slip op. at 7), and this Court will do so here. [FN53] A class definition is inadequate if it is overbroad. *Rink*, 203 F.R .D. at 659; *Mills*, slip op. at 7-8.

FN53. Some courts consider class definition and ascertainability to be implied elements of the class action rule and thus analyze them separately rather than as part of numerosity. *See In re Methyl Tertiary Butyl Ether Products Liability Litigation*, 2002 WL 1560358 *9 (S.D.N.Y. July 16, 2002). Regardless of whether class definition and ascertainability are treated independently or, as this Court does here, as part of numerosity, these requirements must be addressed in considering whether a class can be certified.

***40** 225. Florida courts have recognized that classes as small as 25 have fulfilled the numerosity requirement. *See, e.g., Estate of Bobinger v. Deltona Corp.*, 563 So.2d 739, 743 (Fla. 2d DCA 1990). Plaintiffs contend that the numerosity requirement is satisfied because approximately 1,800 former Stauffer non-management employees are still living. Stauffer, which does not contest the number of former non-management employees that are still living, [FN54] instead argues that the numerosity requirement is nonetheless not satisfied because the class is not adequately defined.

FN54. See Answer to Second Am. Compl. ¶ 38.

226. The Court concludes that the numerosity requirement is not satisfied in this case because plaintiffs' class definition is inadequate and overbroad. As discussed elsewhere in this Order,

plaintiffs' proposed class includes a number of Workers who, for various reasons, do not satisfy the threshold requirements for medical monitoring as described by the Third District in *Petito*.

227. For example, many putative class members were employed at the Plant for too short a period of time to have received a dose of any substance sufficient to put them at any increased risk (let alone a significant increased risk) of contracting a latent disease. The experts agreed that, before a worker's exposure to a particular substance would have any toxicological significance, and thus the potential to place a worker at increased risk of latent disease, the worker would have to absorb a particular level of the substance for a certain amount of time--a threshold dose. In this case, approximately 76% of class members worked at the Plant for less than one year. Dr. Krieger testified that such workers would not be at a significant increased risk of latent disease. Dr. Pepper, in his draft report, also specifically recognized that workers who worked at the Plant less than one year were not at a significant increased risk of latent disease and would not require medical monitoring. The experts' opinions in this regard are consistent with the peer-reviewed epidemiological studies on the Florida phosphate industry workers (which included workers who worked at the Tarpon Springs Plant), in which Dr. Checkoway determined that workers who worked in the industry for less than one year were not employed long enough to be at a significant increased risk of any latent disease and thus did not include such workers in the studies. *See supra,* at ¶ ¶ 110-120, 141-142.

228. In addition, it is undisputed that, for many disease manifestations (*e.g.,* phossy jaw from phosphorus exposure, kidney disease from lead exposure, asthma from chromium exposure, fluorosis from fluoride exposure), all putative class members worked at the Plant so long ago that they are outside any latency period and are thus not at any increased risk of latent disease, let alone a significant increased risk of latent disease. *See supra,* at ¶ ¶ 139, 143-44, 147-150, 165. For other disease manifestations, many putative class members may well be outside the latency period given that 20 to 50 years or more would have passed since they were last exposed. [FN55] Further, some putative class members are individuals for whom the monitoring that would be awarded is no different from the norm for a person with a given set of individual risk factors and a particular medical history. *See supra,* at ¶ ¶ 12, 146, 198 n.51. Similarly, the putative class includes workers who already have symptoms of disease (*see* Plaintiffs' Response to Second Set of Interrogatories at ¶ 4), even though such workers cannot be members of a medical monitoring class because the cause of action recognized by *Petito* is expressly designed for those who have yet "to develop identifiable physical injuries or symptoms," *see* Petito, 750 So.2d at 104, not already symptomatic individuals.

FN55. For P2O5 and H3PO4, on the other hand, the testimony did not identify *any* chronic disease outcome associated with exposure to those substances. Dr. Pepper testified that he was unable to identify any chronic disease outcome appropriate for monitoring that resulted from exposures to P2O5 or H3PO4. Tr. 507:6-14; 508:4-10. Similarly, Dr. Krieger testified that any health effects from such exposures manifest immediately, not after a lengthy latency period. Tr. 959:19-960:5.

***41** 229. Simply put, the putative class as defined by plaintiffs includes many members who do not satisfy the express requirements of *Petito*--and thus the class definition is overbroad. [FN56]

FN56. If plaintiffs had attempted to define the class so as to exclude such individuals, that definition would have set forth a class that was not clearly ascertainable because class membership could only be determined through an individualized analysis of the same plethora of issues that now pervade the putative class. Without that individual analysis, there would be no way to determine whether the numerosity requirement would be satisfied after each of the definition exclusions were considered. Of course, proving rather than assuming that the requirement is satisfied is plaintiffs' burden. *Cf.* Berger v. Compaq Computer Corp., 257 F.3d 475 (5th Cir.2001), *opinion on rehearing,* 279 F.3d 313 (5th Cir.2002) (plaintiffs must prove class action requirements, not merely assume they are satisfied).

230. Plaintiffs' failure to tightly draw or define the class defeats numerosity. *See Duckworth v. Beazer East,* Civil Action No. 98-C-3216 (W.Va. 13th Jud. Cir. July 23, 2002) (denying certification of proposed class of persons who worked at the Koppers Green

Spring Wood Treatment Plant because "[t]here are simply too many variables within each class (as defined) to make the class(es) identifiable" when (a) the class definition included persons who "may not have had significant exposure to creosote depending on their job at the plant and the time period and length of their employment" and (b) "[l]ifestyle and health choices will also be at issue with members of each prospective class"); *Rink*, 203 F.R.D. 648; *Mills*, slip op. at 9-10.

IV. COMMONALITY IS QUESTIONABLE BUT NEED NOT BE REACHED.

231. Rule 1.220(a)(2) requires that questions of law and fact raised by the named plaintiffs' claims be common with those raised by the claims of each member of the class. Plaintiffs contend that the threshold of commonality is not high, citing *Broin v. Philip Morris Co., Inc.*, 641 So.2d 888 (Fla. 3d DCA 1994). Although the Court generally agrees with plaintiffs' contention, to satisfy commonality plaintiffs must still demonstrate a "common right of recovery based on the same essential facts." *State Farm Mutual Automobile Ins. Co. v. Kendrick*, 2002 WL 1369614 (Fla. 3d DCA June 26, 2002). The Court is not convinced that even this relatively light standard is satisfied in this case. Nonetheless, the Court need not resolve this issue because it concludes that the other requirements of Rule 1.220 are not satisfied.

V. TYPICALITY AND ADEQUACY ARE NOT SATISFIED.

232. Rule 1.220(a)(3) requires that the claim of the proposed class representatives be typical of the claim of each class member. The adequacy and typicality requirements are similar in that they evaluate the sufficiency of the named plaintiffs and look to the potential for conflicts among members in the proposed class. *See Amchem Products, Inc. v. Windsor*, 521 U.S. 591, 626 n.20 (1997); *Rink*, 203 F.R.D. at 662 n.12. Accordingly, the Court reviews the adequacy and typicality requirements together.

233. Rule 1.220(a)(4) requires that the named plaintiffs can fairly and adequately protect and represent the interests of the putative class members. This requirement has constitutional due process implications in that inadequate representation exposes the final judgment to collateral attack by unnamed class members. *See Hansberry v. Lee*, 311 U.S. 32 (1940).

234. The adequacy requirement has two components. The first requires an inquiry into whether class counsel is qualified, experienced and able to conduct the litigation. The parties have stipulated to the adequacy of plaintiffs' counsel. The Court therefore concludes that the first component of the adequacy requirement is satisfied.

***42** 235. The second component of the adequacy requirement requires an inquiry into the adequacy of the named representatives. The Court concludes that the putative class representatives have not satisfied this second adequacy component for the following four basic reasons.

236. First, the putative class representatives have failed to assert potentially valuable compensatory damage claims of absent class members who presently may have symptoms of latent disease. As noted above, the second amended complaint does not include claims for emotional distress that were contained in the original version of the complaint. *See supra*, at ¶ ¶ 1-3, 6. Nor does the second amended complaint assert claims based on any existing injuries allegedly resulting from having worked at the Plant. A number of courts have recognized that a putative class representative is inadequate to represent a class when that representative fails to assert potentially valuable claims of putative class members. *See Millett v. Atlantic Richfield Co.*, 2000 WL 359979 * 14 & n.29 (Me.Super.Mar. 2, 2000); *Thompson v. American Tobacco Co.*, 189 F.R.D. 544 (D.Minn.1999); *Zachery v. Texaco Exploration & Production, Inc.*, 185 F.R.D. 230 (W.D.Tex.1999); *Small*, 679 N.Y.S.2d 593, 601-02 (1st Dep.1998), *aff'd*, 94 N.Y.2d 43 (1999); *Pearl v. Allied Corp.*, 102 F.R.D. 921, 923 (E.D.Pa.1984); *Feinstein v. Firestone Tire and Rubber Co.*, 535 F.Supp. 595 (S.D.N.Y.1982); *Chmieleski v. City Products Corp.*, 71 F.R.D. 118, 149 n.25 (W.D.Mo.1976).

237. A case decided after the hearing, *In re Methyl Tertiary Butyl Ether Products Liability Litigation ("MTBE")*, 2002 WL 1560358 (S.D.N.Y. July 16, 2002), is illustrative. There, plaintiffs contended that their well water was contaminated by a gasoline additive used by oil companies. They sought to represent a class of persons seeking injunctive relief in a number of states, including Florida. The defendants argued, as Stauffer does here, that the class representatives were inadequate because their claims-splitting approach--suing now for injunctive relief only--"is sure to haunt the few absent class members whose wells may actually have MTBE levels of regulatory significance." The defendants contended that these absent class members "may

bring suit later--for personal injury or property damage--only to be told ... that they had impermissibly split a single cause of action." *Id.* * 11 (internal quotations omitted). The court observed that claim-splitting is generally prohibited by the doctrine of *res judicata,* and that Florida, among other states, embraces this general prohibition against claim-splitting. *Id.* (citing, among other cases, Gaynon v. Statum, 10 So.2d 432, 433-34 (Fla.1942) ("We recognize the rule against the splitting of causes of action and that as a general rule ... all damages sustained or accruing to one as a result of a single wrongful act must be claimed and recovered in one action or not at all"). The court then noted that "several courts have ... held that the waiver or abandonment of personal injury and other claims by named plaintiffs renders them inadequate as class representatives." *Id.* *12 (citing *Thompson, Feinstein, Millett,* and *Small*). Applying the same reasoning, the *MTBE* court held that the named plaintiffs in that case were inadequate. *Id.* *13. [FN57]

FN57. The *Millett* case is also instructive. There, the plaintiffs excluded from the action all claims for personal injuries. The court ruled that this rendered them inadequate noting that, "where a class has been certified under (b)(2), class members do not have the option of opting out of the class and a judgment ... will have a *res judicata* effect as to the whole class," and, if certified under (b)(3), the opt-out rights applicable to a(b)(3) class action would do nothing to protect the unraised personal injury claims of class members who decided not to opt out. 2000 WL 359979 *9.

***43** 238. This Court agrees with the court in *MTBE* that Florida embraces the prohibition against claim-splitting. *See* Gaynon, 10 So.2d at 433-34. There is no reason to believe that this rule would not apply to former workers who currently may be symptomatic of latent disease but who are putative class members bringing medical monitoring claims only. [FN58]

FN58. The Third District in *Petito* suggested in dictum that presently *asymptomatic* members of a medical monitoring class may not be subject to the rule against claim-splitting and, should they later become symptomatic, would not be precluded by *res judicata* from bringing compensatory damages actions. However, the *Petito* court was careful to limit its suggestion regarding the ability to bring future claims to presently asymptomatic persons; it did not extend its dictum to presently *symptomatic* persons.

239. More specifically, the Court notes in this case that the putative class is defined to include individuals who currently may be symptomatic of latent disease. Second Am. Compl. ¶ 40 (excluding only those workers who have previously filed suit against Stauffer for personal injuries); Plaintiffs' Response to Second Set of Interrogatories at ¶ 4 (symptomatic workers are members of the proposed class). Those persons who do currently manifest symptoms of latent disease, could have had their compensatory damages claims asserted in this action (and, in fact, plaintiffs acknowledge as much by having initially brought certain damage claims in their original complaint, and by continuing to maintain their underlying tort of battery while expressly eschewing any compensatory damage award for that alleged tort). If those individuals later elect to file separate personal injury claims against Stauffer to recover damages for injury allegedly resulting from latent diseases for which symptoms already exist and, as the Court would expect, the rule against claim-splitting were applied by a subsequent court to those claims, certification of the presently-defined class could jeopardize their rights to bring those claims. Thus, plaintiffs' failure to assert the compensatory damage claims of presently symptomatic putative class members renders them inadequate representatives.

240. Second, the proposed class representatives have not demonstrated the ability to take an active role in and control the litigation, as adequacy requires. The class representatives must "possess a sufficient level of knowledge and understanding to be capable of 'controlling' or 'prosecuting' the litigation." Berger v. Compaq Computer Corp., 257 F.3d 475, 497 (5th Cir.2001), *opinion on rehearing,* 279 F.3d 313 (5th Cir.2002). Class action lawsuits are intended to serve as a vehicle for capable and committed advocates to pursue the goals of the class members through counsel, not for capable, committed counsel to pursue their own goals through those class members. *Id.* at 484; *In the* Matter of American Commercial Lines, LLC, 2002 WL 1066743 (E.D.La. May 28, 2002) (denying certification of claims involving oil spill in part because "[n]ot one named class representative fostered the impression that he or she has or had his or her hands on the pulse of the case").

241. In this case, although each of the proposed class

representatives attended the hearing, none of them appears adequately to understand the nature of the lawsuit or the relief sought therein. None seemed to realize that the complaint, as amended, dropped all claims except for medical monitoring. They all testified that this case seeks money damages, variously characterizing the relief sought as money to pay medical bills or money to give to children and grandchildren. [FN59] *See supra,* at ¶ ¶ 208-212. Thus, here, as in *American Commercial Lines,* the evidence indicates that the named plaintiffs have not kept sufficiently abreast of the progress of the litigation. 2002 WL 1066743 * 11. They apparently remain uninformed about fundamental aspects of this case, even as to important changes in the nature of the relief being sought, so that the case has effectively become lawyer-driven litigation. There is no active class representative steering the class action ship.

> FN59. Absent class members also may be under the false illusion that the lawsuit involves compensatory damage claims. The Court takes judicial notice of the fact that a May 12, 1998 article appearing in THE ST. PETERSBURG TIMES shortly after this case was filed stated that the suit sought "economic and punitive damages" as well as medical monitoring relief. In their interrogatory responses, plaintiffs indicated they were interviewed in connection with that article, which later was posted to their counsel's website. As of the time of the hearing, the article stating that economic and punitive damages are being sought remained posted to counsel's website. *See http://www.florinroebig.com/article16.html.*

***44** 242. Third, it is far from clear that putative class representative Ivan Hoyte is even interested in obtaining the medical monitoring remedy he seeks in this action. Mr. Hoyte has a history of refusing, or failing to fully comply with, recommended medical treatment. *See supra,* at ¶ 213. This apparent lack of interest in the only remedy sought in the litigation--medical monitoring--further underscores the inadequacy of Mr. Hoyte as a class representative. *See In re Armstrong World Industries, Inc.,* Case No. 00- 4471 (Adv.Proc. No. 01-06155) (Bkrptcy.D.Del.2002) (putative class representatives were inadequate when they did not seek the testing and warnings which the class purported to seek, but rather were interested in obtaining money damages).

243. Fourth, the testimony presented by each of the putative class representatives raises the specter that their difficulties in remembering information central to this lawsuit and testifying consistently will lead to significant credibility issues at trial. Each of the named plaintiffs had difficulty remembering various facts, or was impeached during cross-examination as a result of giving testimony inconsistent with his own earlier sworn testimony in the case or with documentary evidence. *See supra,* at ¶ ¶ 214- 217. These testimonial difficulties are especially important in a class action because, if the class is certified, the claims of absent class members will rise or fall on the success or failure of the claims of the putative class representatives. Where potential credibility issues such as these exist, courts have found the adequacy requirement to be lacking. *E.g., Darvin v. International Harvester Co.,* 610 F.Supp. 255 (S.D.N.Y.1985) (plaintiff was inadequate when inconsistent testimony and poor memory "could create serious problems with respect to plaintiff's credibility and could become the focus of cross examination ... at trial"); *see Kline v. Wolf,* 702 F.2d 400, 403 (2d Cir.1983) (plaintiff was inadequate due to lack of credibility when testimony on a critical issue was "subject to sharp attack"); *Panzirer v. Wolf,* 663 F.2d 365 (2d Cir.1981) (plaintiff was inadequate due to lack of credibility where she gave four versions of a conversation with her broker), *vacated on other grounds,* 458 U.S. 1105 (1982); *Margaret Hall Foundation, Inc. v. Atlantic Financial Management, Inc.,* 1987 WL 15884 (D.Mass.1987) (plaintiffs were inadequate because their credibility was subject to question when they gave conflicting testimony on important issues). The Court concludes here that the putative class representatives' inconsistent testimony and failure to remember will likely affect their credibility at trial, thereby possibly compromising the claims of absent class members.

244. Based on the foregoing factors, the Court concludes that the named plaintiffs are inadequate class representatives.

VI. COHESIVENESS IS LACKING IN THIS PUTATIVE CLASS.

A. Cohesiveness Is Required In A(b)(2) Class.

***45** 245. Rule 1.220(b)(2) provides that the plaintiffs must prove that the defendants must have "acted or refused to act on grounds generally applicable to the class, thereby making appropriate final injunctive relief or corresponding declaratory relief with respect to the class as a whole."

246. Plaintiffs contended in their filings on class certification, that there is no cohesiveness requirement under subsection (b)(2) of the Florida class action rule. The Court disagrees. Just last December, an Orange County circuit judge recognized that Rule 1.220(b)(2) contains a cohesiveness requirement. *See Cheatwood v. Barry University, Inc.*, 2001 WL 1769914 *3 (Fla.Cir.Ct. Dec. 26, 2001). In addition, a large number of federal courts construing the identical language of Fed.R.Civ.P. 23 have ruled that a natural consequence of the explicit requirement that the relief be appropriate "with respect to the class as a whole" is that a(b)(2) class must be cohesive and homogeneous to be certifiable. *See, e.g., Barnes v. American Tobacco Co.*, 161 F.3d 127, 142 (3d Cir.1998); *Murray v. Auslander*, 244 F.3d 807, 812 (11th Cir.2001); *Lemon v. Int'l Union of Operating Engineers, Local No. 139*, 216 F.3d 577, 580 (7th Cir.2000); *Thomas v. Albright*, 139 F.3d 227, 235 (D.C.Cir.1998); *Allison v. Citgo Petroleum Corp.*, 151 F.3d 402, 411 (5th Cir.1998); *Holmes v. Continental Can Co.*, 706 F.2d 1144, 1155 (11th Cir.1983); *Penson v. Terminal Transp. Co.*, 634 F.2d 989, 993-94 (5th Cir.1981); *United States v. Allegheny-Ludlum Industries, Inc.*, 517 F.2d 826 (5th Cir.1975); *MTBE*, 2002 WL 1560358; *In re Propulsid Products Liability Litigation*, 208 F.R.D. 133 (E.D. La. June 4, 2002); *Santiago v. City of Philadelphia*, 72 F.R.D. 619, 627 (E.D.Pa.1976)); *In re Armstrong World Industries, Inc.*, Case No. 00-4471 (Adv.Proc. No. 01-06155) (Bkrptcy.D.Del.2002).

247. A number of both appellate and trial courts from other states construing a rule of civil procedure that, like Florida Rule 1.220, tracks the language of Federal Rule 23(b)(2) also have ruled that a cohesiveness requirement is inherent in the language of (b)(2). *See Dairyland County Mut. Ins. Co. of Texas v. Casburg*, 63 S.W.3d 590 (Tex.App.2001); *Philip Morris, Inc. v. Angeletti*, 358 Md. 689, 785, 752 A.2d 200, 253 (Md.App.2000) *("Angeletti"); Goasdone v. American Cyanamid Corp.*, Civil Action No. L-985-98 (N.J.Super. Ct., Law Div., Middlesex County, June 7, 2002); *Wilson v. Brush Wellman, Inc.*, 2002 WL 356298 (Ohio Comm.Pl. Feb. 12, 2002); *In re West Virginia Rezulin Litigation*, Civil Action No. 00-C-1180-H (Raleigh Cty. Cir. Ct. Nov. 27, 2001); *Snell v. The Geico Corp.*, 2001 WL 1085237 (Md.Cir.Ct. Aug. 14, 2001); *Millett*, 2000 WL 359979.

248. As the *MTBE* court explained, the (b)(2) class action was "designed specifically for civil rights cases seeking broad declaratory or injunctive relief for a numerous and often unascertainable or amorphous class of persons." 2002 WL 1560358 *14, quoting *Baby Neal v. Kanter*, 43 F.3rd 48, 58 (3rd Cir.1994). Although the (b)(2) class action has been extended beyond civil rights cases, it nonetheless may only be applied where class treatment is "clearly called for," that is, in situations where a court, through a single injunction or declaration, can redress "group, as opposed to individual, injuries...." *Holmes*, 706 F.2d at 1155. "A (b)(2) class action cannot resolve individualized issues of fact, nor provide different types of relief required to redress individual injuries. 'A class action may not be certified under [(b)(2)] if relief specifically tailored to each class member would be necessary to correct the allegedly wrongful conduct of the defendant.' " *MTBE*, 2002 WL 1560358 *14, quoting 5 *Moore's Fed. Practice* § 23.43(2)(b) at 23-195 (3d ed.2000).

***46** 249. Thus, the (b)(2) element operates under "the presumption that the interests of the class members are cohesive and homogeneous such that the case will not depend on adjudication of facts particular to any subset of the class nor require a remedy that differentiates materially among class members." *Lemon*, 216 F.3d at 580. If the presumption of cohesiveness does not hold, the rationale for a(b)(2) class--to remedy "group, as opposed to individual injuries [in circumstances where the group is] generally bound together through 'preexisting or continuing legal relationships' or by some significant common trait such as race or gender"--is lacking and the case cannot proceed as a class action. *Holmes*, 706 F.2d at 1155. In sum, this Court agrees with the overwhelming weight of authority and concludes that Rule 1.220(b)(2) requires that the class be cohesive before it can be certified.

250. The plaintiffs also argue that the (b)(2) cohesiveness requirement is functionally equivalent to the Rule 1.220(a)(2) commonality inquiry described above. Again, the Court disagrees.

251. In *Barnes*, the Third Circuit's seminal opinion on the nature of the evidence required to establish (b)(2) class cohesiveness (which the *Petito* court cited with approval in recognizing the medical monitoring cause of action in this State), the plaintiffs sought to certify a medical monitoring class of cigarette smokers against the tobacco companies under (b)(2). As the Third Circuit explained, the district court found that the (a)(2) commonality requirement was satisfied because the named plaintiffs shared at least one question of fact or law with the grievances of absent prospective class

members. *Barnes*, 161 F.3d at 140. However, the district court decertified the class on lack of cohesiveness grounds, and the Third Circuit affirmed the decertification. It agreed with the district court that the light commonality standard was satisfied. With respect to cohesiveness, however, the Court looked for guidance from a landmark U.S. Supreme Court decision that had been decided the year before, *Amchem v. Windsor*, 521 U.S. 591 (1997). In *Amchem*, the Supreme Court had affirmed the decertification of a(b)(3) settlement class of individuals claiming to have been exposed to asbestos, concluding that individual issues predominated over common issues. In reaching its conclusion, the Supreme Court stated:

> Class members were exposed to different asbestos-containing products, for different amounts of time, in different ways, and over different periods ... The [exposure-only] plaintiffs especially share little in common either with each other or with the presently-injured class members ... They will also incur different medical expenses because their monitoring and treatment will depend on singular circumstances and individual medical histories.

The Third Circuit in *Barnes* drew upon the Supreme Court's *Amchem* ruling, declaring:

> ***47** While Amchem involved a Rule 23(b)(3) class action, the cohesiveness requirement enunciated by both this court and the Supreme Court extends beyond Rule 23(b)(3) class actions. Indeed, a (b)(2) class may require more cohesiveness that a(b)(3) class. This is so because in a(b)(2) action, unnamed members are bound by the action without the opportunity to opt out.

161 F.3d at 142. The court therefore concluded that, under the cohesiveness requirement, the trial court "must ensure that significant individual issues do not pervade the entire action." *Id.*

252. Following *Barnes*, the overwhelming majority of state and federal courts have concluded that a(b)(2) class cannot be certified if significant individual issues merely *exist*. The presence of disparate factual circumstances alone precludes (b)(2) certification. *See, e.g.*, *Rink*, 203 F.R.D. 648 ("the decision in *Barnes* would nevertheless appear to present a compelling rationale for not certifying the medical monitoring subclass under 23(b)(2) because of the individualized nature of the proof"); *Dhamer v. Bristol-Myers Squibb Co.*, 183 F.R.D. 520, 529 (N.D.Ill.1998) (declining to certify a medical monitoring class under (b)(2) because "too many individual issues exist which prevent this case from proceeding as a class action"); *Thompson*, 189 F.R.D. 544 (the same individual issues that prevent certification under (b)(3) make the class fail (b)(2)'s cohesiveness requirement); *Clay v. American Tobacco Co.*, 188 F.R.D. 483 (S.D.Ill.1999) ("Rule 23(b)(2) may not be invoked in a case requiring significant individual liability or defense issues which would require separate hearings for each class member in order to establish the defendant's liability"); (quoting *Arch v. American Tobacco Co.*, 175 F.R.D. 469, 482 (E.D.Pa.1997); *Murray*, 244 F.3d at 812((b)(2) class not certifiable when "inherently individual injuries compels an inquiry into each class member's individual circumstances"); *Angeletti*, 358 Md. at 785, 752 A.2d at 253 ("putative class members ... have been 'exposed to different ... products, for different amounts of time, in different ways, and over different periods," making certification "inappropriate"); *Wilson*, 2002 WL 356298 *9 ("The court finds the presence of disparate factual circumstances here, precluding a Rule 23(b)(2) class action"); *Goasdone*, slip op. at 15 ("Courts are reluctant to certify (b)(2) class actions where individual issues are present ...").

253. It follows, then, that commonality and cohesiveness are far from functionally equivalent. Indeed, a large number of post-*Barnes* courts have recognized that cohesiveness for (b)(2) purposes is even more demanding and difficult to satisfy than predominance for a(b)(3) class, which itself is more demanding than (a)(2) commonality. *Compare Amchem*, 521 U.S. at 624 (predominance requirement is "far more demanding" than (a)(2) commonality; *with Cheatwood*, 2001 WL 1769914 *14 ("courts have repeatedly held that a [Rule 1.220(b)(2)] class should actually have more cohesiveness than a [Rule 1.220(b)(3)] class") (brackets in original); *Barnes*, 161 F.3d at 142 ("a (b)(2) class may require more cohesiveness than a(b)(3) class"); *Penson*, 634 F.2d at 993-94 (there is "a greater degree" of cohesiveness or unity in a (b)(2) class than in a(b)(3) class); *Hammett v. American Bankers Ins. Co.*, 203 F.R.D. 690 (S.D.Fla.2001) (a greater degree of cohesiveness distinguishes (b)(2) classes from (b)(3) classes); *Reap v. Continental Cas. Co.*, 199 F.R.D. 536 (D.N.J.2001)((b)(2) class may require more cohesiveness than a(b)(3) class); *Clay*, 188 F.R.D. at 495 ("A Rule 23(b)(2) class should actually have more cohesiveness than a Rule 23(b)(3) class"); *Angeletti*, 358 Md. at 785, 752 A.2d at 253 ("Courts have mandated as a condition precedent to certifying an equitable relief class that it exhibit 'cohesiveness,' a requirement similar to Rule 2-231(b)(3)'s prerequisite of predominance, yet one that is even more demanding and difficult to satisfy"); *Snell*, 2001 WL 1085237 *11 (same).

***48** 254. The Court therefore concludes that Rule

1.220(b)(2) contains a cohesiveness requirement, that this requirement is not coextensive with the (a)(2) commonality requirement, and that cohesiveness is not satisfied when significant individualized liability or defense issues exist.

B. Plaintiffs' Claims At Trial Will Be Individualized And Cannot Be Proven On A Class-Wide Basis.

1. Proof Of The First Four *Petito* Elements.

255. The facts required to prove the first four *Petito* elements–an exposure to a proven hazardous substance above background levels proximately resulting in a significantly increased risk of contracting a latent disease– are highly individualized and not common to the putative class members.

256. As set forth above, both sides' experts agreed that the actual personnel exposure sampling done at the Plant demonstrated quantitatively that there was significant variability of Worker exposures substance to substance, job to job and over time. Plaintiffs' expert prepared a table summarizing the sampling data and testified that the data reflected significant quantitative variability for the substances at issue in this case. Plaintiffs' expert summarized the sampling data by concluding that the Workers had a wide range of exposures with a wide variety of exposures across job trades, within the same job category, across the years and even day to day. When Stauffer's expert applied the standard statistical test called ANOVA to the sampling data, there were statistically significant variations of Worker exposures to the substances at issue, demonstrating that Worker exposures were highly variable and not homogenous. The quantitative sampling data also demonstrated that the overwhelming majority of Worker exposures were below current OSHA PELs, and it was undisputed that, even if current OSHA standards were applicable, OSHA would not require medical monitoring for individuals whose last exposures exceeded OSHA's PEL or action levels 20 or more years ago. *See supra,* at ¶ ¶ 30-53, 154-163.

257. In addition, as also set forth above, the "qualitative" evidence introduced at the hearing also showed significant variability of Worker exposures at different times, based upon the process area in which each worker worked and his particular job. *See supra,* at ¶ ¶ 55-83. The Plant contained seven separate and distinct process areas, at which different workers were potentially exposed to different substances under different circumstances at different times. All of the fact witnesses who testified at the hearing, all of whom were employed at the Plant at one time or another over its 35-year history, testified that each worker's potential exposures varied depending upon the process area where each worker worked, his particular job, weather conditions and other factors. Plaintiffs' experts testified that potential exposures varied depending upon the process area where each worker worked and his particular job and even within a job category depending on the worker's methods of performing his work, work habits, production, supervision, the time of day and shift worked, and the use of personal protection and safety gear. *See supra,* at ¶ ¶ 17-26, 29, 48.

***49** 258. Additionally, equipment changes, process changes, changes in work habits, and changes in the use of respiratory protection equipment over the course of the 35-year life of the Plant also affected potential Worker exposures in the process areas and over time. *See supra,* at ¶ ¶ 84-98.

259. The evidence at trial regarding Worker exposures, then, is going to be highly individualized from worker to worker and is not susceptible of being shown through common proof for all Workers or any group of workers.

260. Evidence concerning whether any of the Workers are at significant increased risk of latent disease also will be highly individualized. The expert testimony from both sides' experts made clear that dose is critical in determining whether, and to what extent, there is an increased risk of latent disease. Ms. Gross conceded that, before a worker's exposure to a particular substance would have toxicological significance, the worker must have absorbed at least a threshold dose. However, plaintiffs introduced no evidence indicating that they could show on a class-wide basis that all Workers received at least a threshold dose, nor could they in light of the variability in individual worker exposures and the fact that the sampling data overwhelmingly fell below current OSHA PELs. In addition, the expert testimony made clear that dose is a highly individualized inquiry and will vary from worker to worker based upon a number of individual factors such as job position(s) held, the amount of the particular substance to which the worker was exposed, how long and how frequently the worker was exposed, worker tenure, whether or not the worker wore a respirator or other protective gear at the time of exposure, and the worker's age, weight, respiratory status and breathing rate, and general state of health. In addition, a number of other individual factors also play a part in determining the extent of a person's disease risk, including family history,

exposures outside the workplace, age, exercise, diet, lifestyle and smoking history. *See supra,* at ¶ ¶ 94-95, 97, 121-128, 136-140, 151-152.

261. In this case, proof of each worker's conditions of exposure, including the worker's tenure and the time period of exposure, will be a particularly critical element of assessing increased risk of disease (including specifically whether such disease risk is indeed significant, as *Petito* requires). The record demonstrates that such proof will be highly variable especially in light of the widely differing--and predominantly short--periods of worker tenure at the Plant.

262. In an attempt to counter the record evidence that this case involves numerous individual issues discussed herein, plaintiffs designated (improperly as a rebuttal expert) James Tarr who proposed developing an air dispersion model to determine potential exposures on a class-wide basis. However, Mr. Tarr has not yet undertaken any modelling, and he testified that he did not know if sufficient records exist to perform the modelling. Moreover, Mr. Tarr's proposed model admittedly is not designed to address the full range of individual issues discussed herein pertaining to the *Petito* elements, including, for example, actual individual worker exposure levels, dose, significant increased risk of latent disease, the specifics of a proposed monitoring regime, and Stauffer's defenses. *See supra,* at ¶ ¶ 14 n.7, 99-102.

***50** 263. The Court concludes that Mr. Tarr's proposed model does not provide a panacea to the many individual issues already described by the Court in this order. Given its limitations, Mr. Tarr's proposed model does not provide a basis for the Court to reach "a reasonable scientific ... conclusion representing that medical monitoring is necessary." *Cartiglia v. Johnson & Johnson Co.,* 2002 WL 1009473 (N.J.Super.Ct., Apr. 24, 2002) (denying class certification in part on this basis); *see also Bacon v. Honda of America Mfg. Inc.,* 205 F.R.D. 466 (S.D.Ohio 2001) (an expert's model offered to support class certification is insufficient if it does not address individualized issues raised by a common sense assessment of the element of plaintiffs' claims); *Rodriguez v. Ford Motor Credit Co.,* 2002 WL 655679 (N.D.Ill. Apr. 19, 2002) (statistical model designed to prove race discrimination did not compel class certification when it did not address individualized factors of defenses). Certainly, plaintiffs have not carried their burden of showing otherwise.

264. The Court is not "bound to accept any common methodology ... which the plaintiffs may submit when seeking class certification." *Moore v. Southeast Toyota Distributors, Inc.,* 1982 WL 1841 *3 (N.D. Ala. Feb. 4, 1982). Mr. Tarr's proposed model falls far short of what would be necessary for plaintiffs to satisfy their burden of demonstrating that the putative class should be certified here.

265. Proof of causation at trial will also necessarily be individualized. As noted, assessing whether working at the Plant caused a worker to be at a significant increased risk of latent disease cannot be done without also assessing each worker's smoking history, family history, other workplace exposures and exposures outside the workplace, medical history, age, exercise, diet, life-style, and other such factors. *See, e.g., supra,* at ¶ ¶ 11, 122, 126, 139, 189 n.46, 198 n.51. Those are all individual-by-individual inquiries. There is no class-wide proof that can address all the possible permutations in those kinds of individual risk factors.

266. In sum, each plaintiff will have to establish that Stauffer not only exposed the class to hazardous substances but that, as a proximate result, each worker absorbed a toxicologically sufficient dose to be at a significantly increased risk of contracting serious latent disease years after the exposure. The evidence established that this must be done on an individualized basis and not through class-wide proof. Accordingly, cohesiveness is lacking for this putative class and it cannot be certified.

2. Proof Of The Last Three *Petito* Elements.

267. Even if the plaintiffs were able to show, through common proof, that each worker was at significant increased risk of latent disease as a result of exposures at the Plant, the facts required to prove the last three *Petito* elements--the existence of a prescribed monitoring regime that is different from that normally recommended in the absence of exposure, that makes the early detection of latent disease possible, and that is reasonably necessary according to contemporary scientific principles--also are highly individualized and not common to the putative class members.

***51** 268. Whether a monitoring regime should be established for any single worker that would be different from that normally recommended in the absence of exposure is an individualized inquiry. Reliable medical authority states that it is impossible to recommend a uniform preventative physical examination for individuals in groups or as a whole, certainly for the diseases at issue in this case. Rather,

the focus of medical monitoring should be on the individual, and individual risk factors and preferences must be considered in recommending any medical monitoring regime. *See supra,* at ¶ ¶ 167-170.

269. Where, as here, exposure-related medical monitoring is at issue, individuals will have different exposures and different doses and individuals will respond to those doses differently depending on their susceptibility. Each individual patient and health effect has to be evaluated differently. Each screening test will depend on the substance to which the particular individual was exposed and at what levels, and whether that test is safe will depend upon the individual and the individual's age and health status. Moreover, for each individual, the benefits and harms of undergoing potential screening tests and potential treatments are weighed differently. *See supra,* at ¶ ¶ 171-175. These individual issues essentially require that the appropriate relief be tailored to each individual class member. As the Court previously observed (*see supra,* at ¶ 248), that is not the intent of a(b)(2) class action.

270. Furthermore, there is a consensus in the published peer-reviewed scientific and medical literature and among national and international public health organizations that medical monitoring is not appropriate if the early detection of the disease in persons asymptomatic for the disease does not result in improved clinical outcome for the individual. This means there has to be a treatment available to prevent or delay the progression of the disease for which an individual is being monitored. *See supra,* at ¶ ¶ 176-177, 182.

271. For all the substance-related latent diseases identified by plaintiffs' experts, there was no evidence presented of any treatment which, if given earlier, would improve clinical outcome, *see supra,* at ¶ ¶ 178-181, 183-184, and therefore no basis for the Court to conclude that plaintiffs could establish on a class-wide basis that medical monitoring is reasonably necessary.

272. In this regard, it is significant to the Court that plaintiffs disclaimed any intention or obligation even to explain what a proposed medical monitoring program would entail. Their proposal to put off an identification of their program until *after* a class is certified and liability is determined on the merits is contrary to the order of proof described by the Third District in *Petito,* as well as class action law. Under *Petito,* medical monitoring is not just a form of relief, it is a separate cause of action with seven specific elements the plaintiffs must establish in order to prevail at trial, including three that expressly require proof of a monitoring program that meets particular standards. The Court cannot "rigorously analyze" whether plaintiffs' proposed medical monitoring is appropriate for classwide treatment when plaintiffs will not identify the program or programs they have in mind. The U.S. Supreme Court has cautioned clearly against certifying classes on the assumption that "all will be well for surely the plaintiff will win and manna will fall on all members of the class." *General Telephone Co. v. Falcon,* 457 U.S. 147, 161 (1982). Consistent with this cautionary advice, in *Rink* the Middle District rejected a proposal similar to that advanced here:

> ***52** Plaintiffs appear unable to propose a specific type of monitoring program but instead suggest[ed] that upon a jury determination that medical monitoring is appropriate, the court with the assistance of doctors could fashion and administer an appropriate program.
>
> Such a vague suggestion is insufficient to establish the remaining elements [of *Petito*] that a viable monitoring procedure exists to detect disease, if any, resulting from malathion exposure, that any such monitoring would deviate from normal health monitoring in the absence of exposure, or that any such monitoring regime is reasonably necessary according to contemporary scientific principles.

203 F.R.D. at 662.

273. In sum, proof of the *Petito* elements, as required to state a cause of action for medical monitoring, will be highly individualized at trial. Cohesiveness, therefore, is lacking, and this putative class cannot be certified.

3. Proof Of Intentional Conduct

274. The Court also concludes that proof of Stauffer's alleged intentional conduct at trial will be individualized.

275. Plaintiffs rely solely on the intentional tort of battery to satisfy the intentional conduct standard. *See* Plaintiffs' Response to Stauffer's Second Set of Interrogatories at ¶ 6. The elements of battery under Florida law are: (1) the intent to cause a harmful or offensive contact with another person; and (2) an offensive contact that indirectly or indirectly results. *Chorak v. Naughton,* 409 So.2d 35, 39 (Fla. 2d DCA 1981); *City of Miami v. Sanders,* 672 So.2d 46 (Fla. 3d DCA 1996). Battery requires an intentional affirmative act by the defendant and cannot be predicated upon an omission or failure to act. *Sanders,* 672 So.2d at 47; *Sullivan v. Atlantic Federal Sav. & Loan,* 454 So.2d 52 (Fla. 4th DCA 1984). As

Judge Baird stated in *Burke v. Stauffer Chemical Co.*, Case No. 98-3457-CI-20 (Fla. Pinellas Cir. Ct., Oct. 26, 2001), "in order to be liable for a battery, a defendant must do a positive, affirmative act with the intent to cause an offensive contact with the plaintiff [and] the element of intent can only be established if the act is substantially certain to cause the offensive contact" (citing *EAC USA, Inc. v. Kawa*, 2001 WL 779386 (Fla. 2d DCA July 11, 2001).

276. The evidence presented at the hearing reveals that Stauffer's knowledge of the substances and any risk of disease from exposure to them changed throughout the class period and was different in the 1940s than it was in the 1980s. Plaintiffs produced no credible evidence of consistent, across-the-board conduct--let alone intentional, affirmative acts as distinct from alleged omissions or failures to act--from which Stauffer's intent vis-à-vis the putative class as a whole could be shown. *See supra,* at ¶¶ 199-207. Thus, the Court can only conclude that the facts required to prove Stauffer's alleged intent at trial will be individualized. Cohesiveness, therefore, is lacking, and the putative class cannot be certified.

C. Proof Of Stauffer's Defenses At Trial Will Be Individualized And Cannot Be Proven On A Class-Wide Basis.

***53** 277. To obtain class certification, the plaintiffs must show that the defenses, as well as the elements of plaintiffs' causes of action, are not individualized. *See, e.g., Costin v. Hargrave*, 283 So.2d 375 (Fla. 1st DCA 1973) (no class can be certified unless "the claims, issues and defenses are common to all the members of the class"); *Mathieson v. General Motors Corp.*, 529 So.2d 761 (Fla. 3d DCA 1988) ("A claim is not representative where the *defenses* of each plaintiff *would* be dependent on different facts and circumstances.") (emphasis added); *Cordell v. World Ins. Co.*, 418 So.2d 1162 (Fla. 1st DCA 1982) (denying class certification because plaintiffs' sought after remedies "may be subject to separate and distinct defenses"); *Chateau Communities, Inc. v. Ludtke*, 783 So.2d 1227 (Fla. 5th DCA 2001) (individualized defenses contribute to denial of class certification). The Court therefore must examine whether the defenses at trial are susceptible of common proof. [FN60]

FN60. Plaintiffs argue that a diversity of defenses will not prevent class certification. They specifically argue that different statutes of limitations, as a matter of law, do not defeat certification. The Court does not find this blanket conclusion to be supported by even the case law cited by plaintiffs. *In Estate of Bobinger,* the Second District reversed a circuit court decision that class action allegations in a complaint were insufficient. The court stated: "Although there may be some variety in defenses, the sought-after remedy and the questions of fact and law clearly predominate in the allegations of the complaint, at least sufficient to withstand a motion to dismiss before any discovery is had on the question whether to certify the class." Because the court was reviewing a motion to dismiss, it acknowledged that it had to confine its analysis to "the four corners of the complaint." 563 So.2d at 742. *Bobinger* thus arose in a vastly different procedural posture. The court's conclusion, which is valid when ruling on a motion to dismiss, has no application to a case like this where there has been extensive discovery on class issues pursuant to a stipulated order which must be taken into account in performing the required "rigorous analysis." *Cohen v. Camino Sheridan*, 466 So.2d 1212 (Fla. 1st DCA 1985), and *Broin v. Philip Morris Co.*, 641 So.2d 888 (Fla. 3d DCA 1994) are similarly distinguishable because they arose in the same procedural context as *Bobinger*--adjudication of a motion to dismiss. *W.S. Badcock Corp. v. Myers*, 696 So.2d 776 (Fla. 1st DCA 1996) is fully consistent with this Court's ruling. There, the First District affirmed the certification of a TILA class. Citing *Broin* and *Cohen,* the court stated that "the *possibility* of different defenses as to individual members of a class is not fatal to a class action." *Id.* at 780 (emphasis added). The Court agrees with this statement as a theoretical proposition. However, in this case, Stauffer raises more than a theoretical "possibility" that individual statute of limitations defenses will arise at trial. The evidence produced at the hearing strongly suggests that Stauffer has viable limitations defenses as to a number of putative class members. Those defenses simply cannot be adjudicated by common proof in accordance with due process.

278. Stauffer contends that one significant defense at trial will be whether any particular former worker's medical monitoring claim is barred by the statute of limitations. The statute of limitations here is four

years. Fla. Stat. § 95.11(3)(o) & (p). Over Stauffer's objection, the Court already has ruled in this case that each worker's medical monitoring cause of action began to run upon discovery. (*See* Judge Harlan's Sept. 30, 2000 Order Denying Defendants' Motion to Dismiss). A plaintiff discovers or should have discovered a claim when he suspects an injury that was caused by wrongdoing. *See* Sandford v. Manatee County, 769 So.2d 1084 (Fla. 2d DCA 2000) (statute began to run when plaintiffs suspected there was a subsidence problem in their driveway); Steiner v. Ciba-Geigy Corp., 364 So.2d 47 (Fla. 3d DCA 1978) (plaintiff need only have enough facts to point in the direction of the responsible party); O'Connor v. Boeing North American, Inc., 92 F.Supp.2d 1026 (C.D.Cal.2000) ("So long as a suspicion exists, it is clear that the plaintiff must go find the facts; she cannot wait for the facts to find her"). It is not necessary, however, that the plaintiff know of all elements of a cause of action. Breitz v. Lykes-Pasco Packing Co., 561 So.2d 1204 (Fla. 2d DCA 1990). In other words, the limitations period for any worker's medical monitoring claim began running when that worker knew or should have known that he had been exposed to chemicals at the Plant and suspected or should have suspected that he could suffer a disease as a result of that exposure. [FN61] *See* Barnes, 161 F.3d at 152-53 (under Pennsylvania discovery rule, statute of limitations would begin to run when the plaintiff should have known that the exposure put him or her at a significantly increased risk of contracting disease); O'Connor, 92 F.Supp.2d at 1043-45 (pre-1991 claims of two class representatives suing on behalf of a medical monitoring class are barred pursuant to statute of limitations because they are deemed to have knowledge of publicity regarding exposure in 1991 when one read newspapers and the other lived in the area where widespread publicity occurred).

> FN61. This is to be contrasted with the accrual of a personal injury statute of limitations, which is triggered by contracting the disease itself. Of course, medical monitoring, by definition, applies only to individuals who presently manifest no symptoms of disease. Petito, 750 So.2d at 104-05.

***54** 279. Although there are no Florida decisions addressing the statute of limitations inquiry in the context of a medical monitoring claim, a number of other courts have ruled that individualized statute of limitations defenses prevent certification. In this regard, the Court finds helpful the Third Circuit's discussion of this inquiry in *Barnes:*

> Reasonable diligence is an objective, rather than a subjective standard. Under this standard, the plaintiff's actions must be evaluated to determine whether he exhibited those qualities of attention, knowledge, intelligence and judgment which society requires of its members for the protection of their own interests and the interests of others. Reasonable diligence may require one to seek further medical examinations as well as competent legal representation. In addition, when information is available, the failure of a plaintiff to make proper inquiries is a failure to exercise reasonable diligence as a matter of law.

984 F.3d at 857 (internal citations and quotations omitted).

280. With this inquiry in view, the Court concludes that whether any worker knew or should have known of the risk of developing a latent disease as a result of exposure more than four years before this lawsuit was filed is a highly individualized issue as demonstrated in this record. Of the five former workers who testified at the hearing, significant statute of limitations issues were raised with respect to at least four of them. *See supra,* at ¶ ¶ 185-193, 195-198. Moreover, there is no reason to believe, especially in light of the testimony of the proposed class representatives, that the statute of limitations defense is limited to these specific workers. The Court believes Stauffer's statute of limitations defense raises significant individual issues.

281. Stauffer contends that another defense raising individual issues at trial will be whether the Workers consented to the alleged battery of which they now complain. Citing the district court decision in Barnes, 176 F.R.D. at 502, it argues that consent can be shown by demonstrating a particular plaintiff's knowledge of the contact and silence or inaction allowing the contact to continue. Citing the Third Circuit's opinion in Barnes, 161 F.3d at 148, it further argues that the consent must be to the defendant's conduct rather than to its consequence.

282. The Court concludes that the evidence to be produced at trial in support of the consent defense will also be individualized. Two workers testified at the hearing that, though they had concerns about working at the Plant, they nonetheless chose to continue working there to receive higher pay than elsewhere. *See supra,* at ¶ ¶ 188, 194-195. In addition, much of the fact- intensive evidence to be used to support the statute of limitations defense also supports the consent defense. Because, as discussed

above, that evidence will be individualized the Court concludes that whether any worker consented to the alleged exposure is an individualized inquiry. Thus, whether with respect to Stauffer's statute of limitations defense or its consent defense, the proof at trial will have to be individualized. Therefore, a class cannot be certified in this case.

D. Modern Class Action Case Law Compels The Denial Of Class Certification.

***55** 283. The Court's conclusion in this case that plaintiffs' proposed class fails for lack of cohesiveness finds compelling support in the persuasive and large body of medical monitoring cases denying (b)(2) certification for lack of cohesiveness on analogous facts in recent years.

284. The most significant case is the Third Circuit's *Barnes* decision. There, the court observed that "addiction, causation, the defenses of comparative and contributory negligence, the need for medical monitoring and the statute of limitations present too many individual issues to permit certification." "As in *Amchem,* plaintiffs were exposed to different products, for different amounts of time, in different ways, and over different periods" so that "[t]hese disparate issues make class treatment inappropriate." 161 F.3d at 142-143. With respect to the statute of limitations, "determining whether each class member's claim is barred ... raises individualized issues that prevent certification." *Id.* at 149.

285. In addition, the Court is aware of numerous federal and state court decisions denying certification of medical monitoring classes under (b)(2) after *Barnes* on lack of cohesiveness grounds. *See, e.g., Rink,* 203 F.R.D. 648 ("the decision in *Barnes* would nevertheless appear to present a compelling rationale for not certifying the medical monitoring subclass under 23(b)(2) because of the individualized nature of the proof"); *Thompson,* 189 F.R.D. 544 (the same individual issues that prevent certification under (b)(3) make the class fail (b)(2)'s cohesiveness requirement); *Clay,* 88 F.R.D. 483 ("Rule 23(b)(2) may not be invoked in a case requiring significant individual liability or defense issues which would require separate hearings for each class member in order to establish the defendant's liability"); *Chamberlain v. American Tobacco Co.,* 1999 U.S. Dist. LEXIS 5843 (N.D.Ohio 1999) ("the Third Circuit's reasoning in *Barnes* is equally applicable in this case and demonstrates that certification is not appropriate under Rule 23(b)(2)"); *Dhamer,* 183 F.R.D. at 529 (declining to certify a medical monitoring class under (b)(2) because "too many individual issues exist which prevent this case from proceeding as a class action"); *Wilson,* 2002 WL 356298 ("The court finds the presence of disparate factual circumstances here, precluding a Rule 23(b)(2) class action"); *In re West Virginia Rezulin Litigation; Snell,* 2001 WL 1085237; *Millett,* 2000 WL 359979; *Angeletti,* 358 Md. at 785, 752 A.2d at 253 ("putative class members ... have been 'exposed to different ... products, for different amounts of time, in different ways, and over different periods," making certification "inappropriate").

286. A New Jersey decision issued June 7, 2002 is remarkably on point. In *Goasdone v. American Cyanimid Corp.,* Civil Action No. L-985-98 (N.J.Super. Ct., Law Div., Middlesex County, June 7, 2002), the plaintiff sought to certify a(b)(2) medical monitoring class of former workers at the Allied Textile Printers plant in Paterson, New Jersey who worked at the plant for 30 days or longer for a period from 1946 to 1983, when the plant closed. The plaintiff alleged that the dust generated during the process of making benzidine-related dyes caused workers to be harmfully exposed to hazardous substances by way of inhalation, dermal absorption, and ingestion and those workers were at an increased risk of developing disease. The court stated: "[I]t becomes evident that the requirement of cohesiveness cannot be met here." Slip op. at 19. It summarized the basis for this conclusion:

> ***56** Resolution of this case will require the fact finder to resolve a number of individual issues concerning the significance and extent of exposure by each class member to defendants' products, and whether medical monitoring is reasonable and necessary for each class member based on the class member's unique medical history (which may involve other unrelated factors that could also require the medical monitoring). In addition, the statute of limitations defense which has been asserted requires resolution of individual issues. As explained below, each of these issues raises so many individual factors that the proposed class lacks the necessary degree of cohesiveness to warrant certification.

Id. at 20. With respect to the significance and extent of exposure, the court found that this would have to be determined on an individual basis because class members "worked in the plant at different locations, at different times, for different lengths of time, and were exposed to different products in different form." *Id.* In addition, "at any one time the nature of exposure will have differed depending on the location of the plant, which included several separate buildings, where the employees worked and the nature of the work being performed." *Id.* at 20-21.

287. The many post-*Amchem,* post-*Barnes* cases denying (b)(2) certification of putative medical monitoring classes are consistent with the general recognition that mass tort cases, like this one, are particularly ill- suited to class treatment. *See* *In re Temple,* 851 F.2d 1269, 1273 (11th Cir.1988) (class action requirements are rarely met in mass tort cases); *Mills,* slip op. at 11. *See also* Rule 23, Advisory Comm. Note.

E. The Pervasive Individual Issues Cannot Be Solved By Questionnaires Or Administrative Hearings.

288. Plaintiffs contend that the individual issues that permeate this case can be resolved by postponing their adjudication to proceedings occurring after a class trial has occurred, either through an administrative hearing or by having medical monitoring applicants fill out a questionnaire. The Court disagrees with those suggestions for three reasons.

289. First, plaintiffs' proposal is an implicit request to change the substantive law requirements for medical monitoring in order to obtain class certification. The Court cannot change the substantive law. The class action device is procedural in nature only and cannot be used to change the substantive law. *Boyd v. Becker,* 627 So.2d 481, 484 (Fla.1993); *see also* *Amchem,* 117 S.Ct. at 2234 (rules of procedure "shall not abridge, enlarge, or modify any substantive right"). *Petito,* which sets forth the substantive law requirements for medical monitoring in Florida, requires that each and every plaintiff satisfy its seven part test *at trial* in order to demonstrate the existence of a cause of action and establish liability. If the elements of a cause of action are not established at trial, then the case will be dismissed and there can be no back-end administrative proceedings.

***57** 290. Second, plaintiffs' proposal also would violate defendants' due process rights. With respect to the proof of plaintiffs' case-in-chief, it would violate Stauffer's right to cross-examine each claimant on his employment and exposure history, his own medical history, and the other personal risk factors. As the Third Circuit stated in *Barnes:* "[E]ven if the questionnaire were used to determine nicotine dependence, defendants would be permitted to cross-examine each and every class member as to their alleged dependence.... To refute plaintiffs' prima facie case, defendants would be permitted to cross-examine each individual about his specific choices, decisions and behavior, and defendants would be entitled to offer expert testimony about each person's specific circumstances and diagnosis." 161 F.3d at 146. *See also* *Arch,* 175 F.R.D. at 489 n.21 ("the use of questionnaires to establish the elements of causation and injury--without cross-examination or rebuttal evidence--would violate defendants' due process rights"); *Thompson,* 189 F.R.D. at 554 ("even if a questionnaire could be used to establish a prima facie evidence of injury, Defendants would be permitted to cross-examine each class members regarding that alleged injury"); *Lockheed Martin,* 79 Cal.App. 4th 1019, 1027, 94 Cal.Rptr.2d 652, 657 (Cal.Ct.App.2000) ("a class member's right to medical monitoring cannot be decided solely on answers he or she provides to a questionnaire" but "the entitlement to medical monitoring raises issues of fact which defendants have a right to litigate").

291. Plaintiffs' suggestion that individualized issues can be handled through a questionnaire after the merits phase of the case presumably relates to Stauffer's defenses as well. But in decertifying the class it had earlier found appropriate for certification, the court in *O'Connor v. Boeing North American, Inc* ., rejected a similar suggestion as "eviscerat[ing] the role of the limitations defense." That defense "cannot be applied across the board" and, therefore, "[t]he futility of reliance on questionnaires in this complex, individualized inquiry is now obvious." 197 F.R.D. 404, 415 (C.D.Cal.2000). Other courts have also emphatically rejected similar proposals as raising serious fairness and due process concerns for defendants. *See* *Arch,* 175 F.R.D. at 489 n.21; *Cheatwood,* 2001 WL 1769914 *17 (Fla.Cir.Ct. Dec. 26, 2001); *Guillory v. American Tobacco Co.,* 2001 WL 290603 *9 (N.D.Ill. Mar. 20, 2001) ("if defendants were not able to individually probe into the peculiarities of each class member's case, the result would be that they would be denied the opportunity to prepare a defense"). The Court agrees.

292. Third, if plaintiffs' conduct so far in the litigation is any barometer, using post-trial questionnaires in lieu of adversarial proceedings would not provide sufficient assurance that the testimony provided in a questionnaire is accurate and reliable. As discussed *supra,* at ¶ 215, at least one named plaintiff already has submitted erroneous answers to sworn interrogatories. As also discussed *supra,* at ¶ ¶ 186-191 & n.48, 192-193, 195, 214-217, at the hearing, several named plaintiffs (as well as other members of the putative class) on more than one occasion testified inconsistently with their deposition testimony, calling into question their ability to answer a questionnaire accurately and

reliably. These inconsistencies extended to even the most basic issues in this litigation regarding their tenure at the Plant. One named plaintiff testified inconsistently on three separate occasions regarding the years he worked at the Plant. *See supra,* at ¶ 215. This testimony illustrates the danger of using a non-adversarial questionnaire approach.

***58** 293. Quite simply, the surfeit of individual issues on the fundamental elements of plaintiffs' claim for medical monitoring and Stauffer's defenses precludes class certification here. For these individual issues to be ignored until some time after trial, as plaintiffs would have it, would not only place the cart before the horse, but would also deprive Stauffer of its due process rights and is flatly inconsistent with governing class action law.

F. Plaintiffs' Cases Do Not Support Certification

294. Plaintiffs cite a number of cases in support of their claim that a medical monitoring class should be certified in the face of the cohesiveness concerns described above. The Court finds plaintiffs' cases distinguishable.

295. *Boggs v. Divested Atomic Corp.,* 141 F.R.D. 58, (S.D.Ohio 1991); *Day v. NLO,* 144 F.R.D. 300 (S.D.Ohio 1992); and *Yslava v. Hughes Aircraft Co.,* 845 F.Supp. 705 (D.Ariz.1993) were decided before the Supreme Court decided *Amchem* and before the Third Circuit decided *Barnes.* Several courts have observed that they do not grapple with the cohesiveness requirement of (b)(2), and are out of step with modern class action jurisprudence. *See Lockheed Martin,* 79 Cal.App. 4th at 1030, 94 Cal.Rptr.2d at 660 ("we are not impressed with the federal decisions cited by plaintiffs, particularly in light of *Amchem Products* as well as the contrary lower federal court authority"); *Goasdone,* slip op. at 18 (distinguishing pre-*Barnes* cases *Day* and *Yslava* by observing that those decisions did not discuss cohesiveness and "courts currently take a close look at the individual issues before certifying medical monitoring class actions"). The Court agrees and declines to follow them.

296. In addition, several of the cases plaintiffs cited to the Court subsequently have been decertified. *See O'Connor,* 180 F.R.D. 359 (C.D.Cal.1997), *subsequent opinion decertifying class,* 197 F.R.D. at 412-13 (stating that "[t]he rigor and difficulty of the Court's individualized analysis in its summary judgment order ... have also persuaded the Court that it underestimated the difficulty of applying the individualized factors required" by California medical monitoring law); *Cook v. Rockwell Int'l Corp.,* 151 F.R.D. 378 (D.Colo.1993), *subsequent opinion decertifying class,* 181 F.R.D. 473 (D.Colo.1998); *Boggs v. Divested Atomic Corp.,* 141 F.R.D. 58, *subsequent opinion decertifying class,* Case No. C-2-90-840, slip op. at 15 (S.D. Ohio Mar. 24, 1997 Order Ruling Upon a Number of Pending Motions).

297. *In re Diet Drugs Products Liability Litigation,* 1999 WL 673066 (E.D.Pa. Aug. 26, 1999), is a fen-phen case. It involved only two drugs, not a variety of substances as are at issue here. Of equal importance, it involved readily ascertainable dates, duration and amounts of ingestion and epidemiological evidence establishing a purported link between the exposures at issue and increased risk of latent disease. In certifying a class there, the Court explicitly distinguished a case such as this one involving alleged exposures to a variety of substances, wide variations in exposure, dose and duration, and no epidemiological evidence indicating a link between the alleged exposures at issue and increased risk of latent disease. 1999 WL 673066 *12- 13. *Diet Drugs* is therefore off-point.

***59** 298. The magistrate's recommendation in *Elliot v. Chicago Housing Auth.,* 2000 WL 263730 (N.D.Ill. Feb. 28, 2000) is equally off-point. It involved civil rights claims that residents in federal housing were exposed to lead-based paint in violation of federal and state laws and regulations. As a civil rights case, it was a prototypical (b)(2) case. The facts are distinguishable as well. Unlike here, there was one form of exposure, not many, to one substance, not many. There was marked evidence of elevated blood levels of lead. Finally, there was no issue of intent and no statute of limitations defense.

299. The two Florida cases plaintiffs cite--*Broin,* 641 So.2d 888, and *R.J. Reynolds v. Engle,* 672 So.2d 39 (Fla. 3d DCA 1996)--both tobacco cases out of the Third District--are likewise distinguishable. Neither opinion discusses medical monitoring.

300. In addition, *Broin* was not a(b)(2) case (and indeed, the (b) element of Rule 1.220 was not at issue at all in that opinion). The court of appeals reversed the grant of a motion to dismiss and, thus, had occasion to address only the facial sufficiency of the Rule 1.220(a) elements as pled in the complaint. There was no occasion for the court to conduct a "rigorous analysis" under the class action rule.

301. In *Engle,* the 1.220(a) elements were not at issue because the defendants did not challenge them

on appeal. *Engle* also was not a(b)(2) case; it was a(b)(3) case. Thus, only the trial court's finding that the case satisfied (b)(3) was on appeal, and, as noted *supra,* at ¶ ¶ 251-253, the (b)(2) cohesiveness requirement is even more demanding than the (b)(3) predominance requirement.

302. Indeed, the Court finds more persuasive the subsequent decision of the circuit court in *Engle.* Although the Third District's opinion did not address medical monitoring, the *Engle* complaint did contain a request for such relief along with its main request for damages. Even in the context of a(b)(3) class action, in a November 6, 2000 order, the trial court dismissed the medical monitoring allegations and excluded them from the certified class to avoid the individual issues that caused the Third Circuit in *Barnes* to reject certification. *Engle v. American Tobacco Co.,* 2000 WL 33534572 *9 (Fla.Cir.Ct. Nov. 6, 2000). The same result is appropriate here.

CONCLUSION

303. Class certification must be denied in this case for any of several, separate and independent reasons.

(a) First, numerosity is not satisfied. The plaintiffs' definition of the putative class is overbroad and cannot be re-defined to avoid that problem without rendering membership in the class unascertainable.

(b) Second, the named plaintiffs are atypical and inadequate as class representatives. They have abandoned potentially valuable claims of other putative class members. They have not taken an active role in controlling the litigation and have memory and credibility issues that will impact on the class members' claims. In addition, it appears that at least one class representative is not even interested in obtaining the relief being sought.

***60** (c) Third, there is a lack of cohesiveness among the members of the proposed class because individual issues pervade the determination of whether the elements of *Petito* have been satisfied, whether plaintiffs have proved the elements of battery, and whether Stauffer's defenses have been established. Thus, the critical issues of Worker exposures, dose, whether a worker is at a significant increased risk of latent disease, and the availability of a clinically beneficial test that meets the standards of *Petito* all necessarily require an analysis of a host of factors that are unique to each individual worker. Substantial individual issues also must be resolved in determining whether each plaintiff can prove that Stauffer's conduct amounted to a battery in order to avoid the workers' compensation bar. Finally, whether Stauffer's statute of limitations and consent defenses (the existence of which, the evidence has shown, are much more than a mere possibility) can be established likewise unavoidably requires individualized proof. All of these factors preclude a finding of cohesiveness in this case.

Accordingly, for all the reasons discussed in these Findings of Fact and Conclusions of Law, the Court ORDERS AND ADJUDGES that Plaintiffs' Motion for Class Certification be DENIED.

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